



# TAMIL NADU GOVERNMENT GAZETTE

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## Part III—Section 1(a)

General Statutory Rules, Notifications, Orders, Regulations, etc.,  
issued by Secretariat Departments.

### NOTIFICATIONS BY GOVERNMENT

#### LABOUR WELFARE AND SKILL DEVELOPMENT DEPARTMENT

OCCUPATIONAL SAFETY, HEALTH AND WORKING CONDITIONS (TAMIL NADU) RULES, 2022

[G.O. Ms. No. 38, Labour Welfare and Skill Development (H2), 11th April 2022,  
பங்குனி 28, பிலவ, திருவள்ளூர் ஆண்டு-2053.]

No. SRO A-8(c)/2022.

The following draft rules, which the Government of Tamil Nadu proposed to make in the exercise of powers conferred by, sections 133 and 135 of the Occupational Safety, Health and Working Conditions Code, 2020 (Central Act 37 of 2020) read with section 23 of the General Clauses Act, 1897 (Central Act X of 1897) and in supersession of-

1. The Tamil Nadu Contract Labour (Regulation and Abolition) Rules, 1975;
2. The Tamil Nadu Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Rules, 1983;
3. The Tamil Nadu Beedi and Cigar Workers (Conditions of Employment) Rules, 1968;
4. The Tamil Nadu Building and Other Construction Workers (Regulation of Employment and Conditions of Services) Rules, 2006;
5. The Tamil Nadu Factories Rules, 1950;
6. The Tamil Nadu Safety Officers (Duties, Qualifications and Conditions of Service) Rules, 2005;
7. The Tamil Nadu Factories (Welfare Officers) Rules, 1953;
8. The Tamil Nadu Control of Industrial Major Accident Hazards Rules, 1994;
9. The Tamil Nadu Plantations Labour Rules, 1955; and
10. The Tamil Nadu Motor Transport Workers Rules, 1965;

except as respects things done or omitted to be done before such supersession, are hereby notified as required by sub-section (1) of said section 133 and sub-section (1) of section 135 of the said Code, for information of all persons likely to be affected thereby and notice is hereby given that the said draft rules will be taken into consideration after the expiry of a period of 45 days from the date on which the copies of the Tamil Nadu Government Gazette in which this Notification is published are made available to the public;

Objection or suggestion, if any, may be addressed to the Secretary to Government, Labour Welfare and Skill Development Department, Government of Tamil Nadu through the Director of Industrial Safety and Health, Guindy, Chennai 32. (e-mail id: [cif@tn.gov.in](mailto:cif@tn.gov.in)). The objection or suggestion should be sent in a proforma containing columns, (i) specifying the name and address of the persons and organisations (ii) specifying the rule or sub-rule which is proposed to be modified and (iii) specifying the revised rule or sub-rule proposed to be substituted and the reasons therefor;

Objections and suggestions, which may be received from any person or organisation with respect to the said draft rules before expiry of the period of 45 days, specified above, will be considered by the Government of Tamil Nadu.

## OCCUPATIONAL SAFETY, HEALTH AND WORKING CONDITIONS (TAMIL NADU) RULES, 2022.

### DRAFT RULES.

#### CHAPTER I.

#### PRELIMINARY.

**1. Short title, extent and commencement.**-(1) These rules may be called the Occupational Safety, Health and Working Conditions (Tamil Nadu) Rules, 2022.

(2) They extend to the whole of the State of Tamil Nadu.

(3) They shall come into force on the date of their final publication in the *Tamil Nadu Government Gazette*.

**2. Definitions.**-(1) In these rules, unless the context otherwise requires,-

- (a) "Board" means Tamil Nadu State Occupational Safety and Health Advisory Board constituted by the Government under sub-section (1) of section 17;
- (b) "Code" means the Occupational Safety, Health and Working Conditions Code, 2020 (Central Act 37 of 2020);
- (c) "electronically" means any information submitted by email or uploaded on the portal or making digital payment through any mode for the purposes of the Code;
- (d) "Form" means a form annexed to these rules;
- (e) "Government" means the Government of Tamil Nadu;
- (f) "Inspector-cum-Facilitator" means a person appointed by the Government by notification under sub-section (1) of section 34;
- (g) "Licensing Authority" means authority appointed by the Government by notification under the sub-section (1) of section 119;
- (h) "hazardous substance" means any chemicals and substances as specified in column (2) along with the quantity mentioned in column (3) of Schedule II and Schedule III under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, as amended from time to time;
- (i) "member" means a member of the Board and includes its Chairperson;
- (j) "power" means electrical energy, or any other form of energy which is mechanically transmitted and is not generated by human or animal agency;
- (k) "qualified person" means a person designated by the occupier, who by his experience and knowledge of necessary precautions against risks of danger or hazard, is fit to undertake such work;
- (l) "Registering officer" means the registering officer appointed by the Government under sub-section (1) of section 3;
- (m) "Schedule" means the Schedule to these rules;
- (n) "section" means the section of the Code;
- (o) "Standard Safe Operating Practices" means the practice followed for the safety and health of workers and safe operation of machinery, process and equipment used in such practices and such practices conform to all or any of the following, namely:-
  - (i) relevant standards approved by the Bureau of Indian Standards or International Standards;
  - (ii) National Building Code;
  - (iii) manufacturer's instruction on safe use of equipment and machinery;

(iv) code of practice on safety and health practices published by the International Labour Organisation and amended from time to time.

(2) The words and expressions used in these rules and are not defined therein, but are in the Code, shall have respectively meaning assigned to them in the Code.

## CHAPTER II.

### Registration.

**3. Application for registration under section 3.** - (1) No establishment shall function without a valid certificate of registration.

(2) (i) The employer seeking registration for an establishment not already registered under any other labour law shall apply in **FORM I** to the Registering officer appointed by the Government under sub-section (1) of section 3 of the Code, within sixty days from the date of such applicability of the Code along with the fee prescribed in this rule:-

(a) in case of factory or building and other construction works, electronically through the Online Portal of the Directorate of Industrial Safety and Health;

(b) in case of establishments other than factory or building and other construction works, electronically through the Online Portal of Labour Welfare Department,

by giving details about the establishment, and uploading documents related to registration of the establishment, proof of identity and address of the employer(s) as specified in the **FORM I**. The Form shall be signed digitally or electronically or in any other manner as may be required on the portal. The applicant shall be responsible for veracity of all informations submitted in the application.

(ii) The fees to be paid for the grant of a Registration Certificate shall be as specified in the Table below, namely:-

THE TABLE.

<i>Serial No. (1)</i>	<i>Number of workers (2)</i>	<i>Fees in rupees (3)</i>
(1)	Upto 9 workers	200
(2)	10 to 49 workers	500
(3)	50 to 100 workers	1000
(4)	101 to 250 workers	2000
(5)	251 to 500 workers	3000
(6)	501 to 1000 workers	5000
(7)	1001 to 5000 workers	10000
(8)	5001 and above	20000

(iii) If the application for registration is submitted after expiry of the prescribed period specified in clause (i), the application may be entertained only on payment of the late fee specified below in addition to the fee payable under clause (i).

<i>Serial No.</i>	<i>Period</i>	<i>Late fee</i>
(1)	If the Registration application submitted within a period of 3 months after expiry of the prescribed time mentioned in <b>clause(i)</b>	25% of fee payable under <b>clause (ii) of this sub-rule</b>
(2)	If the Registration application submitted after expiry of 3 months but within 6 months of the prescribed time mentioned in <b>clause(i)</b>	50% of fee payable under <b>clause (ii) of this sub-rule</b>
(3)	If the Registration application submitted after expiry of 6 months of the prescribed time mentioned in <b>clause(i)</b>	100% of fee payable under <b>clause (ii) of this sub-rule</b>

(3) The Permanent Account Number (PAN) of the applicant or the establishment allotted under Income Tax Act, 1961 (Central Act 43 of 1961) or any other unique number allotted to the establishment under any other Act for the time being in force or any other particular furnished in the form, may be verified online.

**4. Appeal under section 4.-** (1) The employer aggrieved by the order of the registering officer issued under section 3, may appeal against such order before the appellate officer appointed by the Government for such purpose within thirty days from the date of receipt by him of such order, electronically.

(2) Where the memorandum of appeal is in order, the appellate officer shall admit the appeal, acknowledge it and intimate admission of such appeal, and shall register the appeal in electronic form to be kept for the purpose called the register of appeals.

(3) When the appeal has been admitted, the appellate officer shall send the notice of the appeal to the registering officer, against whose order the appeal has been preferred and the registering officer shall thereupon send the records of the case to the appellate officer online electronically.

(4) On receipt of the appeal, the appellate officer shall send a notice electronically or by registered post to the appellant to appear before him on such date and time as may be specified in the notice for the hearing of the appeal.

(5) If on the date fixed for hearing, the appellant does not appear, the appellate officer may dismiss the appeal for default of appearance of the appellant by sending the copy of the order to the applicant electronically.

(6) Where an appeal has been dismissed, the appellant may apply electronically to the appellate officer for the restoration of the appeal within thirty days from the date of receipt of the order and if the appellate officer is satisfied that the appellant was prevented by sufficient cause from appearing, the appellate officer shall restore the appeal.

(7) The order of the Appellate Officer shall be communicated electronically or by registered post to the appellant and copy thereof shall be sent to the registering officer against whose order the appeal has been preferred and shall be disposed of within a period of thirty days from the date of receipt of appeal.

**5. Notice of commencement and cessation of operation under section 5.-** The employer of every establishment being factory, building or other construction work or relating to contract labour, shall within thirty days of the commencement or cessation of operation, submit to the Registering Officer in **FORM II**, electronically and the notice of cessation of operation shall be enclosed with a certificate that the payment of all dues to the workers employed in the establishment have been made and the premises are kept free from storage of hazardous chemicals and substances.

### CHAPTER III.

#### Duties of Employer and Employee.

**6. Annual Health Examination of employees under clause (c) of sub-section (1) of section 6.-** Every employer, shall arrange to conduct free of cost, medical examination for every worker annually, that is within 120 days from the commencement of the every calendar year who has completed 45 years of age. The medical examination shall be conducted by a qualified medical practitioner as per proforma in the **FORM III**.

**7. Letter of appointment to employee under clause (f) of sub-section (1) of section 6.-** No employee shall be employed in any establishment unless he has been issued a letter of appointment in the format hereunder:-

#### Format.

- (1) Name of employee:
- (2) Father's name:
- (3) Aadhar number of employee:
- (4) Labour Identification Number (LIN) of the establishment:
- (5) Universal Account Number (UAN)/Insurance Number (ESIC) of employee (if available):
- (6) Registration number of the establishment (DISH/COL):
- (7) Name and address of the establishment:
- (8) Designation:
- (9) Category of skill:
- (10) Date of joining (if already joined):
- (11) Wages, Basic Pay & Dearness Allowance:



- (12) Other allowances including accommodation whichever is/are applicable:
- (13) Avenue for achieving higher wages/higher position:
- (14) Applicability of social security Employees' Provident Fund Organisation and Employees' State Insurance Scheme benefits (if applicable):
- (15) Registration number issued by the Tamil Nadu Construction Workers Welfare Board:
- (16) Registration number issued by the Tamil Nadu Labour Welfare Board:
- (17) Health check-up details:
- (18) Broad Nature of duties to be performed:
- (19) Any other information:

Signature

*Occupier/employer/owner/agent/manager*

**8. Notice of accidents and dangerous occurrences under sub-section (1) of section 10 and section 11.-** (1) Where at any place in an establishment, an accident occurs which results in the death of any person, the employer of the establishment shall forthwith inform by telephone or special messenger or electronically to the Inspector-cum-Facilitator, Chief Inspector-cum-Facilitator, District Collector or Sub-Collector / Revenue Divisional Officer, the Officer-in-charge of the nearest police station and the family members or kin of the deceased person and shall forthwith send a notice thereof in **FORM IV** electronically or through special messenger within 12 hours of the occurrence of the accident.

(2) Where at any place in an establishment, an accident occurs which results in bodily injury by reason of which the person injured is prevented from working for a period of forty eight hours or more immediately following the accident, the employer of the establishment shall forthwith send a notice in **FORM IV** within twenty four hours after the completion of forty eight hours, electronically or through special messenger or through post to the Inspector-cum-Facilitator.

(3) Wherein an establishment there is any dangerous occurrence as specified in the list annexed hereto, whether causing any bodily injury or disability or not, a notice in **FORM IV** shall within twelve hours be sent to:

- (a) The Inspector-cum-Facilitator;
- (b) District Collector or Sub-Collector / Revenue Divisional Officer:

Provided that if in the case of an accident or dangerous occurrence, death occurs to any person injured by such accident or dangerous occurrence after the notices and reports referred to in the foregoing sub-rules have been sent, the employer of the establishment shall forthwith send a notice thereof by telephone and electronically to the authorities and persons mentioned in sub-rules (1) and (2) and also have this information confirmed in writing within 12 hours of the death:

Provided further that, if the period of disability from working for 48 hours or more referred to in sub-rule (2) does not occur immediately following the accident, or the dangerous occurrence, but later, or occurs in more than one spell, the report referred to shall be sent to the Inspector-cum-Facilitator in the prescribed form within 24 hours following the hours when the actual total period of disability from working resulting from the accident or the dangerous occurrence becomes 48 hours.

(4) No injured person shall be allowed to return to work without a fitness certificate issued by a qualified medical practitioner.

(5) Wherever the person injured does not return to work in the establishment before the expiry of 21 days after the occurrence of the accident with or without disablement and wherever the person injured returns to work in the establishment after sustaining compensable disablement as a result of the accident, the employer of the establishment shall send to the Inspector-cum-Facilitator within 28 days of the occurrence of the accident, a written report in the prescribed **FORM V** and follow it up as necessary with further reports in the same **FORM V** once every fortnight thereafter, until the final report on the date of return to work of the person injured is made. In the event of the person injured not returning to work of his own accord or otherwise the full circumstances of the same should also be reported to the Inspector-cum-Facilitator by the employer of the establishment within seven days of his name being removed from muster roll of the establishment. Even if the person injured were to be covered by the Employees' State Insurance Scheme, it shall be the responsibility of the employer of the establishment to obtain the relevant information for the purpose of this rule in **FORM V** and report the same to the Inspector-cum-Facilitator.

#### LIST OF DANGEROUS OCCURRENCES

The following classes of dangerous occurrences, whether or not they are attended by personal injury or disablement, namely:-

(i) Bursting, of any plant or pipeline or equipment containing petroleum, steam, compressed air or other substance at a pressure greater than the atmospheric pressure;

(ii) Collapse or failure of a crane, derrick, winch, hoist or other appliances used in raising or lowering persons or goods, or any part thereof, or the overturning of a crane;

(iii) Fire, Explosion, leakage or release of harmful toxic gases, bursting out, leakage or escape of any molten metal, or hot liquid or gas and implosion;

(iv) Explosion of a receiver or container used for the storage at pressure greater than atmospheric pressure of any gas or gases (including air) or any liquid or solid resulting from the compression of gas;

(v) collapse or failure of lifting appliances or hoist or conveyors or other similar equipment for handling building or construction material or breakage or failure of rope, chain or loose gears; overturning of cranes used in building or other construction work; falling of objects from height;

(vi) collapse of any wall, floor, gallery, roof bridge, tunnel, chimney, wall, building or subsidence of soil or any other structure, platform, staging, scaffolding or any means of access including formwork; contact work, excavation and collapse of transmission;

(vii) Spillage or leakage of hazardous substances and damage to their container; collapse, capsizing, toppling or collision of transport equipment within the establishment;

(viii) fall from height of any excavation, loading or transport machinery;

(ix) an instantaneous failure of a pillar, part of a pillar or several pillars of coal (i.e., a bump) in working below ground;

(x) a rock-burst in working belowground; a premature collapse of any part of the working;

(xi) a breakage, fracture or failure of an essential part of any machine or apparatus whereby the safety of persons may be endangered;

(xii) a slide causing injury to any person, damage to any machinery, or interruption of normal mining operations;

(xiii) failure of dump or side in opencast working; a blowout;

(xiv) a failure of any structure or installation whereby the safety of persons may be endangered; or spark generated due to electrical flash-over causing burn injury to any person;

(xv) a major uncontrolled emission of petroleum or chemical spillage;

(xvi) Excessive radioactive emission.

**9. Notice of disease under sub-section (1) and (2) of section 12.-** (1) A notice in the following format shall be sent forthwith electronically or through special messenger or through post, to the Inspector-cum-Facilitator or Chief Inspector-cum-Facilitator, by the employer of an establishment in which there occurs any disease as notified under the Third Schedule of the Code.

#### NOTICE OF DISEASE

1. Name, address and registration number of establishment:

2. Nature of establishment:

3. Details of Patient:

a. Name of Patient:

b. Universal Account Number (UAN) / Insurance Number (ESIC) of Patient (if available):

c. Address of Patient:

d. Precise occupation of Patient:

4. Nature of disease from which the patient is suffering:

5. Date of Detection of disease:

6. Details of Medical Practitioner:

7. Has the case been reported to the Medical Officer:

Date:

Signature of employer or occupier or manager

(2) If any qualified medical practitioner attends on a person who is or has been employed in an establishment and who is or is believed by the qualified medical practitioner to be suffering from any disease specified in the Third Schedule to the Code, the qualified medical practitioner shall send a report in writing within 48 hours to the office of the Chief Inspector-cum- facilitator stating-

- (i) the name and full postal address of the patient;
- (ii) the disease from which he believes the patient to be suffering; and
- (iii) the name, address and registration number of the establishment in which the patient is or was last employed.

**10. Duties of employee under clauses (d) and (g) of section 13.-** If an employee comes to know that of any unsafe or unhealthy condition in the establishment, he shall report to the employer, supervisor or safety officer and Inspector-cum-Facilitator, as soon as practicable, electronically or in writing or telephonically.

**11. Rights of Employee under sub-section (3) of section 14.-** On receipt of information from the employee relating to the existence of an imminent danger to their safety and health, the employer shall take immediate remedial action in this regard. The employer, whether satisfied or not, shall send a report forthwith of such actions taken, to the Inspector-cum-Facilitator electronically or by registered post or speed post within forty eight hours of receipt of information.

#### CHAPTER IV.

#### Occupational Safety and Health.

**12. Constitution of Tamil Nadu State Occupational Safety and Health Advisory Board under sub-sections (1) and (2) of section 17.-**

(1) The members of the Board will be as follows:-

- (i) The Secretary to Government, Labour Welfare and Skill Development Department, Government of Tamil Nadu -Chairperson ex-officio;
- (ii) The Director of Industrial safety and health, Government of Tamil Nadu - member Secretary ex-officio;
- (iii) The Commissioner of Labour, Government of Tamil Nadu- member ex-officio;
- (iv) The Chairman, Tamil Nadu Pollution Control Board or his representative - member ex-officio;
- (v) Regional Director - Employees' State Insurance Corporation, Chennai - member ex-officio;
- (vi) Director of Medical Services, Government of Tamil Nadu or his representative - member ex-officio;
- (vii) five representatives of employers to be nominated by the Government- members;
- (viii) five representatives of employees to be nominated by the Government - members;
- (ix) five eminent persons connected with the field of Occupational Safety and Health, or representatives from reputed institutions / organisations of similar discipline to be nominated by the Government - members;
- (x) The Chairperson of the Board may invite persons as special invitees for seeking inputs on specific matters - members;

(2) The Board shall meet to discharge the functions as specified in sub-section(1) of section 17 of the Code.

(3) The term of office of the members referred to in clauses (vii) to (ix) of sub-rule (1) shall be of three years.

(4) Notwithstanding anything contained in this rule, members referred to in clauses (vii) to (ix) of sub-rule (1) will continue to hold office during the pleasure of the Government.

(5) If a member changes his address, he shall notify his new address to the Member-Secretary of the Board who shall thereupon enter his new address in the official records.

(6) When a vacancy occurs or is likely to occur on completion of the term of the member in the membership of the Board or resignation of a member or due to removal, the Member Secretary shall submit a report to the Government to nominate a person to fill the vacancy.

(7) (i) The Board shall meet at such places and at such times as may be decided by the Chairperson and it shall meet at least once in six months.

(ii) Ordinarily two week notice shall be given to the members of the Board of a proposed meeting. Notice together with a list of business proposed to be transacted approved by the Chairperson shall be sent to every member of the State Board, through e-mail or registered post or speed post or by special messenger.

(iii) In case when the Chairperson calls an emergency meeting of the Board for considering any matter which is urgent, a notice with such reasonable time shall be sent to every member through e-mail or by registered post or speed post or special messenger.

(iv) No business other than for which the meeting of the Board has been convened shall be transacted at the meeting except with the permission of the Chairperson.

(8) No business shall be transacted at any meeting of the Board unless at least seven members are present in that meeting which shall include at least one non-official member:

Provided that if at a meeting, less than seven members are present, the Chairperson may adjourn the meeting to another date informing the members present and giving notice to the other members that he proposes to dispose of the business at the adjourned meeting whether there is prescribed quorum or not, and it shall there upon be lawful for him to dispose of the business at the adjourned meeting irrespective of the number of members attending.

(9) Every matter which the Board is required to take into consideration shall be considered at a meeting of the Board, or if the Chairperson so directs, by sending the necessary papers to every member for opinion, and the matter shall be disposed of in accordance with that decision of the majority:

Provided that where there is no opinion of majority on a matter and the members of the Board are equally divided, the Chairperson shall have a second or a casting vote.

(10) (i) The minutes of each meeting showing inter-alia the names of the member present there, shall be forwarded to each member of the Board and to the Government as soon as possible and in any case not later than four weeks after the meeting.

(ii) The minutes of each meeting of the Board shall be signed by the Chairperson.

(iii) The minutes of the meeting shall be confirmed, with such modification if any, at the next meeting.

(iv) The minutes of a meeting of the Board shall be kept in separate Book.

(11) The Member Secretary shall, with the approval of the Chairperson, issue notice to convene meetings of the Board and keep record of minutes and shall take necessary steps for carrying out the decision of the Board.

**13. Resignation.**-(1) A member of the Board, not being an ex-officio member, may resign by a letter in writing addressed to the Government.

(2) The seat of such a member shall fall vacant from the date on which his resignation is accepted by the Government or on the expiry of thirty days from the date of receipt of intimation of resignation, whichever is earlier.

**14. Cessation of membership.**-(1) If any member of the Board, not being an ex-officio member, fails to attend three consecutive meetings of the Board, without obtaining the leave sanctioned by the Chairperson of the Board for such absence, he shall cease to be a member of the Board:

Provided that the Chairperson may, if it is satisfied that such member was prevented by sufficient cause from attending three consecutive meetings, direct that such cessation shall not take place and on such direction being made, such member shall continue to be a member of the Board.

(2) A member nominated shall cease to be a member of the Board if he ceases to represent the category of interest from which he was so nominated.

**15. Disqualification for membership.**-A person shall be disqualified for being a member of the Board-

(i) if he is of unsound mind and stands so declared by a competent authority;

(ii) if he is an un-discharged insolvent; or

(iii) if he has been convicted for an offence, having a penalty of imprisonment of three months or more.

**16. Removal from membership.**-The Government may remove any member of the Board, if in its opinion such member has ceased to represent the interest which he purports to represent the Board.

**17. Travelling Allowances of Members.-** (1) The travelling allowance of an official member of the Board shall be governed by the rules applicable to him for journey performed by him on official duties and shall be paid by the authority paying his salary as approved by the Board.

(2) The Board shall be treated as a first class committee and members of the Board other than the official members shall be paid travelling allowance and daily allowance at such rates admissible to the non-official members of the first class committee.

**18. Safety Committee under section 22.-** (1) In every establishment,-

(i) wherein two hundred and fifty workers or more are ordinarily employed; or

(ii) which carries on any hazardous process as defined in clause (za) of section 2 or carries operation declared to be dangerous under the Code and employs fifty or more workers; or

(iii) which handles an hazardous substance as defined in clause (h) of rule 2 and employs fifty or more workers;

shall constitute a safety committee consisting of representatives of employers and workers.

(2) The tenure of the safety committee shall be two years. The safety committee shall meet at least once in every quarter.

(3) The employer shall, within a period of fifteen days from the date of receipt of the recommendations of the Safety Committee shall take action to implement the recommendations.

**19. Composition of Safety Committee.-** (1) The representatives of the management on Safety Committee, shall consist of,-

(i) A senior official, who by his position in the organisation can contribute effectively to the functioning of the Committee, shall be the Chairman;

(ii) A Safety Officer wherever available; and

(iii) A representative each from the production, maintenance, human resource and purchase departments.

(2) The workers' representatives on this committee shall be as equal to the number of representatives of the management, as elected by the workers:

Provided that there shall be adequate representation of the women workers in the committee.

(3) The minutes of the meeting of the Safety Committee shall be recorded and produced to the Inspector-cum-Facilitator on demand.

(4) Safety Committee shall have the right to be adequately and suitably informed of,-

(i) potential safety and health hazards to which the workers may be exposed at workplace;

(ii) data on accidents as well as data resulting from surveillance of the working environment and of the health of workers exposed to hazardous substances.

(5) Function and duties of the Safety Committee shall include,-

(i) assisting and co-operating with the management in achieving the aims and objectives outlined in the 'Safety and Health Policy';

(ii) dealing with all matters concerning health, safety and environment and to arrive at practicable solutions to problems encountered;

(iii) creating safety awareness amongst all workers;

(iv) undertaking educational, training and promotional activities;

(v) discussing reports on safety, environmental and occupational health surveys, safety audits, risk assessment, emergency and disaster management plans and implementation of the recommendations made in the reports;

(vi) carrying out health and safety surveys and identifying causes of accidents;

(vii) looking into the matters likely to cause danger to the safety and health of the workers and suggest corrective measures; and

(viii) reviewing the implementation of the recommendations made by it.

**20. Safety Officer for Factory and Building and Other Construction Works.**-(1) A person shall not be eligible for appointment as a safety officer relating to factory or building or other construction work unless he possesses—

(i) a recognised degree in any branch of engineering or technology and has had practical experience in a supervisory capacity for a period of not less than two years; or

(ii) a recognised degree in physics or chemistry and has had practical experience in a supervisory capacity for a period of not less than five years; or

(iii) a recognised diploma in any branch of engineering or technology and has had practical experience in a supervisory capacity for a period of not less than five years; and

(iv) possesses any Diploma in Industrial Safety conducted by any Institute under Directorate General, Factory Advice Service and Labour Institutes (DGFASLI), Ministry of Labour and Employment, Government of India (or) possesses a degree (or) a Diploma in Industrial Safety with equivalent syllabus and duration of not less than one year awarded by any university incorporated under the Central or State Acts or Department of Technical Education or Board of Technical Education of any State / Union Territories / Government of India; and

(v) has adequate knowledge of Tamil Language:

Provided that the employer shall ensure that the safety officer appointed shall acquire adequate knowledge of the language spoken by majority of workers within one year from the date of such appointment.

(2) Notwithstanding anything contained in sub-rule (1), any person who –

(i) possesses a recognised degree or diploma in engineering or technology and has had experience of not less than five years in a department of the Central or State Government which deals with the administration of the Factories, Building or other Construction Workers; or

(ii) possesses a recognised degree or diploma in engineering or technology and has had experience of not less than five years, full time, on training, education, consultancy, or research in the field of accident prevention in industry or in any institution, shall also be eligible for appointment as a safety officer.

**21. Recruitment of Safety officer.**-(1) The post of Safety Officer to be filled in any factory or building and other construction work shall be advertised by the concerned employer in a prominent online job portal or at least in two newspapers having wide circulation in the State, out of which one newspaper shall be in Tamil and other in English:

Provided that the vacancies in the post of Safety Officers in the Government establishments, Quasi-government establishments and Public undertakings shall be filled up based on the concerned establishment's recruitment policy:

Provided further that the officers from the Directorate of Industrial Safety and Health, Government, may be posted as safety officers on deputation basis in which the procedures laid down in sub-rule (1) need not be followed:

Provided also that when the post is proposed to be filled by transfer or promotion from among the members of staff in the establishment or group of establishments belonging to the same employer, the Government Public Sector Undertaking or Government Establishment or Quasi Government Establishment, the vacancy shall be widely published among the prospective staff by suitable methods.

(2) Selection for appointment to the post of Safety Officer by direct recruitment or by transfer or promotion or nomination shall be made from among the candidates applying for the post, through a selection committee appointed by the employer of the establishment.

(3) The appointment of the Safety Officer, when made, shall be notified by the employer of the establishment to the Chief Inspector-cum-Facilitator, giving full details about the qualifications, age, pay and allowances, previous experience and other relevant particulars of the officer appointed and the terms and conditions of the service applicable to him.

**22. Filling up of the vacancy of the post of Safety Officer.**- Every vacancy in the post of Safety Officer caused by death, dismissal or discharge of the person holding such post or by any other cause, shall be forthwith notified by the Employer to the Chief Inspector-cum-Facilitator and shall be filled up within three months of the occurrence of such vacancy.

**23. Number of safety officers and conditions of service.**- (1) The number of Safety Officers shall be appointed in an establishment as per the table below:-

THE TABLE.

<i>Sl. No.</i>	<i>Number of workers ordinarily employed in an Establishment</i>	<i>Number of Safety Officers to be employed</i>
1.	Not exceeding 2000	1 (one)
2.	Above 2000 but not exceeding 5000	2 (Two)
3.	Above 5000 but not exceeding 8000	3 (Three)
4.	Above 8000 but not exceeding 10000	4 (Four)
5.	Above 10000	5 (Five)

(2) When more than one Safety Officers are appointed, any one among them shall be designated as the Chief Safety Officer and shall have the status higher than that of others. The Chief Safety Officer shall be in overall charge of the safety functions, as specified in rule 24 and other Safety Officers shall work under his control.

(3) The Chief Safety Officer or the Safety Officer in the case of the establishments where only one Safety Officer is required to be appointed, shall be given the status of a senior executive equivalent to the Head of Department and he shall work directly under the control of the Chief Executive of the establishment. All the Safety Officers shall be given appropriate status to enable them to discharge their functions effectively.

(4) The scale of pay and allowance to be granted to the Safety Officers including the Chief Safety Officer and the conditions of their service shall be the same as those of the other officers of corresponding status in the establishment.

(5) In the case of dismissal or discharge, the concerned Safety Officer shall have the right to appeal to the Chief Inspector-cum-Facilitator, whose decision thereon shall be final and binding upon the employer of the establishment.

(6) The appeal shall be preferred within thirty days from the date of the receipt of the order of dismissal or discharge by the Safety Officer concerned.

**24. Duties of Safety Officer.**—The duties of the Safety Officers shall be to advise and assist the Establishment in the fulfillment of its obligations, statutory or otherwise, concerning prevention of personal injuries and maintaining a safe working environment. These duties shall include the following, namely:—

(1) to advise the concerned departments in planning and organising measures necessary for the effective control of personal injuries;

(2) to advise on safety aspects in all job studies and to carryout detailed job safety studies of selected jobs;

(3) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries;

(4) to advise the purchasing and stores departments in ensuring high quality and availability of personal protective equipment;

(5) to advise on matters relating to carrying out of plant safety inspections ;

(6) to carry out plant safety inspections in order to observe the physical conditions of work and the work practices and procedures followed by workers and to render advise on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers;

(7) to render assistance on matters relating to reporting and investigation of industrial accidents and occupational diseases ;

(8) to investigate all accidents and near-miss incidents ;

(9) to render assistance for the cases of industrial diseases contracted and in respect of dangerous occurrences specified in rule 8;

(10) to render assistance on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and industrial diseases ;

(11) to organise in association with the concerned department or campaigns, competitions, contests and other activities which will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedure ; and

(12) to design and conduct either independently or in collaboration with the training department, suitable training and educational programs for the prevention of personal injuries and for the propagation of safety awareness.

**25. Facilities to be provided to Safety Officer.**-An employer of the establishment shall provide each Safety Officer with adequate technical and secretarial staff and other facilities, equipment and information as are necessary to enable him to discharge his duties effectively and efficiently.

**26. Prohibition of performance of other duties.**-No Safety Officer shall be required or permitted to do any work which is inconsistent with or detrimental to the performance of the duties prescribed in rule 24.

#### CHAPTER V.

#### Hours of Work and Annual Leave with Wages.

**27. Daily and weekly working hours under clause (b) of sub-section (1) of section 25.**- (1) No worker shall be required or allowed to work in an establishment for more than forty eight hours in any week.

(2) The period of work of a worker shall be so arranged that inclusive of his intervals for rest, shall not spread over for more than twelve hours in a day.

(3) The periods of work of workers shall not exceed five hours continuously and that no worker shall work for more than five hours continuously before he has had an interval for rest of at least half an hour.

**28. Weekly day of rest under section 26.**- (1) For the purpose of section 26, there shall be posted up in a conspicuous place at or near the entrance or published in the website of every establishment a notice in Tamil, English and the language understood by majority of the workers showing the weekly day of rest. Where the weekly day of rest is not the same day for all persons employed in the establishment, the notice shall show the day of rest allowed to each relay, or set of persons or individual.

(2) No adult worker shall be required or allowed to work in an establishment on the weekly day of rest (hereinafter referred to as the said day), unless-

(i) he has or will have a holiday for a whole day on one of the three days immediately before or after the said day; and

(ii) the employer of the establishment has, before the said day or the substituted day under clause (i), whichever is earlier,-

(a) delivered a notice at the office of the Inspector-cum-Facilitator of his intention to require the worker to work on the said day and of the day which is to be substituted; and

(b) displayed a notice to that effect in the establishment:

Provided that no substitution shall be made which will result in any worker working for more than ten days consecutively without a holiday for a whole day.

(3) Notices given under sub-rule (2) may be cancelled by a notice delivered at the office of the Inspector-cum-Facilitator and a notice displayed in the establishment or published in the website of establishment not later than the day before the said day or the holiday to be cancelled, whichever is earlier.

(4) Where, in accordance with the provisions of sub-rule (2), any worker works on the said day and has had a holiday on one of the three days immediately before it, the said day shall, for the purpose of calculating his weekly hours of work, be included in the preceding week.

**29. Compensatory holidays.**-(1) Where, a worker is deprived of any of the weekly holidays for which provision is made under section 26, except in the case of worker engaged in any work which for technical reasons must be carried on continuously throughout the day, the compensatory holidays to be allowed under sub-section (3) of section 26 of the Code shall be so spaced that not more than two compensatory holidays are given in one week.

(2) The employer of the establishment shall display, on or before the end of the month in which holidays are lost, a notice in respect of workers allowed compensatory holidays during the following month and of the dates thereof, at the place at which the notice of periods of work prescribed under section 31 is displayed. Any subsequent change in the notice in respect of any compensatory holiday shall be made not less than three days in advance of the date of that holiday.

(3) Any compensatory holiday or holidays to which a worker is entitled shall be given to him before he is discharged or dismissed and shall not be reckoned as part of any period of notice required to be given before discharge or dismissal.

**30. Extra Wages for overtime under section 27.**- (1) In pursuance of section 27 of Code, wherein an establishment a worker works for more than eight hours in any day or for more than forty-eight hours in any week, as the case may be, he shall in respect of such overtime work be entitled to wages at the rate of twice his ordinary rate of wages and shall be paid at the end of each wage period.

(2) In calculating overtime on any day, a fraction of an hour between 15 to 30 minutes shall be counted as 30 minutes and in case of more than 30 minutes it shall be rounded and shall be counted as an hour on actual basis.



(3) In calculating the wages or earnings in the case of a worker paid by the month, the daily wages shall be 1/26th of his monthly wages; and in the case of any other worker it shall be the daily wages or earnings as the case may be.

(4) Total number of hours of work in any day shall not exceed twelve and the spread over for the workers shall not exceed fourteen hours in any one day under the following works and circumstances, namely:-

- (i) urgent repairs;
- (ii) work in the nature of preparatory or complimentary work;
- (iii) work which is necessarily so intermittent that the intervals during which they do not work while on duty ordinarily amount to more than the intervals for rest;
- (iv) work which for technical reasons must be carried on continuously;
- (v) engaged in making or supplying articles of prime necessity which must be made or supplied every day;
- (vi) engaged in a process which cannot be carried on except during fixed seasons;
- (vii) engaged in a process which cannot be carried on except at times dependent on the irregular action of natural forces;
- (viii) engaged in an engine-rooms or boiler-houses or in attending to power-plant or transmission machinery;
- (ix) engaged in process on account of the break-down of machinery;
- (x) engaged in the loading or unloading of railway wagons or lorries or trucks;
- (xi) exceptional pressure of work; and
- (xii) engaged in any work, which is notified by the Central Government in the Official Gazette as a work of national importance.

Provided that no worker shall be allowed to work overtime exceeding one hundred twenty five hours in any quarter of a year.

**31. Restriction of double employment under section 30.-** An adult worker may be employed in more than one factory on the same day with the previous approval of the Inspector-cum-Facilitator, subject to the following conditions:-

- (1) He shall not be employed for more than eight hours in all on any one day;
- (2) He shall receive a weekly holiday in accordance with the provisions of section 26;
- (3) Every worker who is required to work in another factory on the same day shall carry with him a card in which the following particulars shall be entered by the occupier of the first factory:-
  - (i) His normal periods of work as the notice of period of work, for the day.
  - (ii) The period or periods he has worked in the first factory for the day.

(4) The occupier of the second factory in which he is to work for the rest of the day shall enter in the card the period or periods he has worked for the day in his factory. The occupier of both the factories in which the worker has worked for the day on the same day shall send to the Inspector-cum-Facilitator, an extract of the card mentioned above not later than three days from the date on which the worker has so worked in the two factories on the same day.

**32. Notice of periods of work under sub-section (2) of section 31.-** The notice referred to in sub-section (2) of section 31 shall be displayed at conspicuous places on a notice board or electronic board in Tamil, English and language understood by the majority of the employees in **FORM VI** and copy of such notice shall be sent to Inspector-cum-Facilitator electronically or by registered post.

## CHAPTER VI.

### Maintenance of Registers, Records and Returns.

**33. Maintenance and production of reports registers and other records under section 33.-**(1) Every employer shall maintain register of workers, wages, overtime, fine, deduction for damage or loss in **FORM VII** electronically or manually and shall be kept available at an office or the nearest convenient building within the precincts of the establishment.

(2) The employer or the contractor, as the case may be, shall maintain a muster roll of all the persons employed by him in the establishment in **FORM VIII** electronically or manually and entries shall be made at the commencement and completion of each period of work. The employer shall make it readily available for inspection to the Inspector-cum-Facilitator at all times during working hours.

(3) In case of manual registers and other records, entry shall be made with indelible ink in English or Tamil.

(4) All reports, registers and other records shall be preserved in original for a period of three calendar years after the date of the last report or entry:

Provided that when the original record is lost or destroyed before the expiry of three years period, true copies thereof, if available, shall be preserved for the prescribed period.

(5) All reports, registers and other records shall be produced, electronically or manually or by registered post, on demand before the Chief Inspector-cum-Facilitator or an Inspector-cum-Facilitator or any person authorised in that behalf of the Government.

**34. Display of notice board.**-Every employer shall cause to display at the conspicuous place of the workplace or publish in the website of the establishment under his control, notice showing the name, address and registration number of the establishment, hours of work, wage period, date of payment of such wages, name, address and contact number of the Inspector-cum-Facilitator having jurisdiction to such establishment and date of payment of unpaid wages to such workers in Tamil or English.

**35. Return.**-Every employer of an establishment shall electronically submit annually a return relating to such establishment in **FORM IX** to the Inspector-cum-Facilitator having jurisdiction through the Online Portal of Directorate of Industrial Safety and Health or Labour Department, as the case may be, so as to reach him not later than 31<sup>st</sup> January following the end of each calendar year with a copy to Director General, Labour Bureau.

**36. Register of accidents and dangerous occurrences.**-The registers of accidents and dangerous occurrences required by sub-clause (v) of clause (a) of section 33 of the Code shall be maintained electronically or manually in **FORM X**.

**37. Register of leave with wages under clause (a) of section 33.**- (1) The employer of every establishment shall maintain in respect of every worker thereof a record of leave with wages electronically or manually in **FORM XI**.

(2) The register mentioned in sub- rule (1) shall be preserved for a period of three years after the last entry in them has been made and shall not be destroyed even after the expiry of that period unless it has been properly transferred to the new register.

#### CHAPTER VII.

##### Inspector-cum-Facilitator and other Authority.

**38. Power to take samples of any articles or substances under clause (x) of sub-section (1) of section 35.**- (1) An Inspector-cum-Facilitator shall take samples or substances in an establishment after informing the employer / employer's representative of the establishment, taken in the manner hereinafter provided a sufficient sample of any substance used or intended to be used in the establishment, such use being-

(i) in the belief of the Inspector-cum-Facilitator in contravention of any of the provisions of this Code or the rules made thereunder, or

(ii) in the opinion of the Inspector-cum-Facilitator likely to cause bodily injury to, or injury to the health of employee in the establishment.

(2) Where the Inspector-cum-Facilitator takes a sample under sub-rule (1), he shall, in the presence of the employer or employer's representative informed under that sub-rule unless such person willfully absents himself, divide the sample into three portions and effectively seal and suitably mark them, and shall permit such person to add his own seal and mark thereto.

(3) The person informed as aforesaid shall, if the Inspector-cum-Facilitator so requires, provide the appliance for dividing, sealing and marking the sample taken under this rule.

(4) The Inspector-cum-Facilitator shall,-

(i) forthwith give one portion of the sample to the employer or employer representative;

(ii) forthwith send the second portion to a Government laboratory or National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratory for analysis and report thereon; and

(iii) retain the third portion for production to the Court before which proceedings, if any, are instituted in respect of the substance.

(5) Any document purporting to be a report under the hand of any Government Analyst or NABL accredited laboratory upon any substance submitted to him for analysis and report under this rule, may be used as evidence in any proceeding instituted in respect of the substance.

**39. Powers and duties of Inspector-cum-Facilitator under clause (xiv) of sub-section (1) of section 35.**- (1) If it appears to the Inspector-cum-Facilitator that any building or part of a building or any part of the ways, machinery or plant in a factory or any building or other construction work is in such a condition that it is dangerous to human life or safety or health, he may serve on the occupier of the factory or employer of the building or other construction work, an order in writing specifying the measures which in his opinion should be adopted and requiring them to be carried out before a specified date.

(2) If it appears to the Inspector-cum-Facilitator that the use of any building or part of a building or any part of the ways, machinery or plant in a factory or any building or other construction work involves imminent danger to human life or safety or health, he may serve on the occupier of the factory or employer of the building or other construction work an order in writing prohibiting its use until it has been properly repaired or altered.

(3) Inspector-cum-Facilitator shall, after every inspection, as may be deemed necessary, issue improvement notice pointing out the non-compliance of provisions of safety, health and working conditions under the Code, and rules and regulations framed there under, to the employer of the establishment.

**40. Appointment of Medical officer under sub-section (1) of section 42.-** The Medical Officer shall be a medical practitioner who possesses any recognised medical qualification as defined in the National Medical Commission Act, 2019 (Central Act 30 of 2019) and who is enrolled on a Indian Medical Register as defined in clause (e) and on a State Medical Register as defined in clause (l) of section 35, 36, 37 and 40 of the said Act.

**41. Duties of Medical Officer under sub-section (2) of section 42.-** (1) On receipt of a reference under clause (c) of sub-section (2) of section 42 of the Code, the Medical Officer shall, after giving prior notice regarding date, time and place for medical examination and upon examining the person sent for such examination, prepare the age and fitness certificate and deliver the same to the employer of the establishment concerned after retaining a copy thereof.

(2) The medical officer may seek opinion of specialists like radiologist, dentist and orthopaedic surgeon as the case may be.

(3) Medical Officer shall carry out such examination and furnish such report as the Director of Industrial Safety and Health or Commissioner of Labour may direct-

(i) for examination and certification of workers in an establishment in such dangerous occupation or hazardous processes as specified in the First Schedule to the Code;

(ii) for medical supervision of any establishment or class of establishment where cases of chronic occupational illness have occurred due to arduous nature of any process carried on or hazardous condition of work;

(iii) in respect of any establishment or class of establishment or description of establishment in which operations involve any risk of injury to the health of any person or class of persons employed therein;

(iv) to undertake occupational health survey for any or class of an establishment, where cases of illness have occurred or there is prevalence of diseases as prescribed in the Third Schedule of the Code; and

(v) to assess the age and issue fitness of adolescent for employment in an establishment or class of establishment.

#### CHAPTER VIII.

##### Special Provision relating to Employment of Women.

**42. Employment of Women in establishment under section 43.-** The following conditions shall be met for employment of women before 6.00 a.m. and beyond 7.00 p.m in any day, namely:-

(1) the consent of women employee shall be taken;

(2) No women shall be employed against the maternity benefit provisions laid down under the Social Security Code, 2020 (Central Act 36 of 2020);

(3) Adequate transportation facilities shall be provided to women employee to pick-up and drop such employee at her residence;

(4) The workplace including passage towards conveniences or facilities concerning toilet, washrooms, drinking water, entry and exit of women employee should be well-lit;

(5) The toilet, washroom and drinking facilities should be near the workplace where such women employees are employed;

(6) Sanitary napkins of adequate quantity conforming to relevant Indian Standards formulated by Bureau of Indian Standards shall be provided and maintained in the women's toilets for their use, and the same shall be replenished on daily basis;

(7) Disposable bins with lids shall be provided within the women's toilets for the collection of the used sanitary napkins. The used sanitary napkins shall be disposed off in a safe, hygienic and eco-friendly process by using suitable electrical incinerator;

(8) Provide safe, secure and healthy working condition such that no women employee is disadvantaged in connection with her employment; and

(9) The provisions of the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (Central Act 14 of 2013), as applicable to the establishments, shall be complied with.

**43. Adequate safety of employment of women under section 44.-** (1) Notwithstanding anything contained in any rule made under the Code, every woman employed in manufacturing process wherein dust or fume or other impurity is given off, shall be provided with suitable respirator, nose mask etc.,

(2) No woman worker shall be engaged to work near the machinery in motion without wearing head cap, apron and suitable overcoat so as to avoid the risk of bodily injury from any moving part.

(3) Notwithstanding the provisions under clause (iv) of sub-section (1) of section 24, suitable arrangements for sitting shall be provided and maintained separately for all women obliged to work in the standing position, in order that they may take advantage of any opportunities for rest which may occur in the course of their work.

(4) As far as practicable woman worker shall not be engaged in any workplace involving poor ergonomics detrimental to the safety and health.

(5) The employer carrying on hazardous process and dangerous operations shall disseminate the information to every woman in relation to dangers, physical and health hazards arising from the exposure, handling, transportation, storage and other processes involved therein and such information shall be in Tamil and in the language understood by every woman.

#### CHAPTER IX.

#### Contract Labour.

**44. Conditions of Licence under sub-section (3) of section 47.-** (1) The contractor shall ensure that-

- (i) the hours of work shall conform to section 25 of the Code.
- (ii) the wages shall be paid in accordance with the Code on Wages, 2019 (Central Act 29 of 2019).

(2) The contractor shall intimate within fifteen days of the receipt of a contract work order about the details of the contract work order and in the manner as under rule 51.

(3) (i) If contract worker of the contractor is working at the premises of the principalemmployer then it shall be the responsibility of the principal employer to maintain in his establishment health, safety and working conditions and to provide the welfare facilities specified under sections 23 and 24 of the Code.

(ii) All other facilities and entitlements shall be provided by the contractor.

(4) In case, the contractor fails to make payment of minimum wages to the contract worker, then the authority notified under sub-section (1) of section 45 of the Code on Wages, 2019 (Central Act 29 of 2019), who shall cause such payment to be made to the contract workers.

**45. Form and manner of application for common licence under sub-section (1) of section 48.-** Every application by a contractor for the grant of a common licence shall be made,-

(1) in case of factory or building and other construction works, electronically through the Online Portal of the Directorate of Industrial Safety and Health;

(2) in case of establishments other than factory or building and other construction works, electronically through the Online Portal of Labour Department,

in **FORM XII** to the licensing authority notified under sub-section (1) of section 119 of the Code along with online payment of the appropriate licence fee specified in rule 47.

**46. Forms, terms and conditions of licence.-** (1) Every licence granted shall be in **FORM XIII**.

(2) Every licence granted or renewed is subject to the following conditions, namely:—

- (i) the licence shall be non-transferable;
- (ii) the number of workers employed as contract labour by the contractor shall not, on any day, exceed the maximum number specified in the licence;
- (iii) save as provided in these rules, the fees paid for the grant, or as the case may be, for renewal of the licence shall be non-refundable;
- (iv) the rates of wages payable to the workers by the contractor shall not be less than the rates prescribed under the Code on Wages, 2019 (Central Act 29 of 2019) and where the rates have been fixed by agreement, settlement or award, not less than the rates so fixed.

**47. Procedure for issue of licence under sub-section (2) of section 48.-** (1) Before a licence is issued, an amount calculated at the rate of Rupees Five hundred for each of the workmen to be employed as contract labour, in respect of which

the application for licence has been made, shall be deposited as security deposit by the contractor for due performance of the conditions of the licence and compliance with the provisions of the Code or the rules made there under.

(2) The amount of security deposit to be deposited under sub-rule (1) shall be paid through the Online Portal of Directorate Of Industrial Safety and Health or Labour Department.

(3) Wherein the issued contract licence had expired, based on the request of the applicant in **FORM XII**, the licensing officer may adjust the security deposit in respect of his application for new licence.

(4) The fees to be paid for the grant of a licence shall be as specified in the table below, namely:-

TABLE.

<i>Sl No. (1)</i>	<i>Number of contract labour (2)</i>	<i>Fees (in rupees) (3)</i>
1	50 to 100	15000
2	101 to 250	20000
3	251 to 500	30000
4	501 to 1000	40000
5	1001 to 5000	50000
6	5001 and above	60000

**48. Renewal of licence under section 48.-** (1) Every contractor shall apply electronically to the appropriate licensing authority for renewal of the licence in **FORM XII**.

(2) Every such application shall be submitted on the said portal under rule 47, at least thirty days prior to expiry of licence period.

(3) The security deposit and the fee chargeable for renewal of the licence shall be the same as for the grant of licence under rule 47:

Provided that if the application for renewal is not received within the time specified in sub-rule (2), an additional fee of twenty five per cent, shall be payable for such renewal.

(4) Licence issued under this rule shall be valid for a period of five consecutive calendar years commencing from the year in which the licence is renewed.

**49. Refund of security deposit.-**(1) On expiry of the period of licence the contractor may, if he does not intend to have his licence renewed further, make an application electronically to the licensing authority for the refund of the security deposited by him along with copy of licence and notice of completion of work.

(2) If the Licensing Authority is satisfied that there is no breach of the conditions of licence or there is no order for the forfeiture of security deposit or any portion thereof, he shall direct the refund of the security deposit to the applicant.

(3) If there is any order directing the forfeiture of any portion of contractor's security deposit, the amount to be forfeited shall be deducted from the security deposit, and balance, if any, shall be refunded to the contractor.

(4) Any application for refund shall, as far as possible, be disposed of within 30 days of the receipt of the application.

**50. Responsibility of contractor under sub-section (4) of section 48.-** (1) The rates of wages payable to the workers by the contractor shall not be less than the rates prescribed under the Code on Wages, 2019 (Central Act 29 of 2019) and where the rates have been fixed by agreement, settlement or award, not less than the rates fixed.

(2) In case where the worker employed by the contractor perform the same or similar kind of work as the worker directly employed by the principal employer of the establishment, the wage rates, holidays, hours of work and other conditions of service of the workers of the contractor shall be the same as applicable to the workers directly employed by the principal employer of the establishment on the same or similar kind of work. In case of any dispute whether the work is of similar kind, the matter be referred to the Inspector-cum-Facilitator whose decision shall be final.

(3) In other cases the wage rates, holidays, hours of work and conditions of service of the workers of the contractor shall be such as specified under the Code and rules made thereunder.

(4) All contract labour shall be made member of Employees' Provident Fund Organisation and Employees' State Insurance Scheme subject to applicability as under respective provisions of the Code on Social Security, 2020 (Central Act 36 of 2020).

(5) The contractor shall notify in **FORM XII** any change in the number of workers or conditions of work or any other particulars already furnished to the Licensing Authority, electronically.

**51. Intimation of work order and time limit for intimation under sub-section (1) of section 50.**-(1) Every contractor shall within fifteen days of the receipt of a contract work order shall intimate about the contract work order containing the details such as the name of the principal employer, address of the premises where work is being undertaken, date of commencement of the contract work, the number of contract labour employed under that work order, duration of work orders.

(2) The details of work order shall be sent by the contractor or his authorised representative.

(3) The intimation shall be sent electronically on the Online Portal of the Directorate of Industrial Safety and Health or Labour Department as the case may be.

**52. Manner of suspending or cancelling the Licence of contractor under sub-section (2) of section 50.**-Whenever it comes to the knowledge of the appropriate licensing authority that any contractor has not given intimation as required under sub-section (1) of section 50, it may start the proceeding to cancel or suspend the licence following the procedure herein after mentioned:-

(a) the licensing authority shall issue a show cause notice to the contractor, electronically or otherwise, to explain his conduct;

(b) the contractor shall reply to the notice given under clause (a) within the time limit specified in such notice; and

(c) the licensing authority shall examine such reply and shall pass speaking orders.

**53. Amendment of licence under sub-section (2) of section 51.**- Every contractor shall apply to the appropriate licensing authority for the amendment of licence in **FORM XII** through the online portal of the Directorate of Industrial Safety and Health or Labour Department as the case may be along with an additional fee payable as per the Table in sub-rule (4) of rule 47 and an additional amount of security deposit at the rate of five hundred rupees for every additional workman employed as Contract Labour.

**54. Single Licence for Contractor in more than one establishment in the State.**-(1) The contractor opting for a single licence for supplying or engaging contract labour undertaking or executing the contract works under sub-sections (1) or sub-section (2) of section 47,-

(i) in case of more than one factory or building and other construction works located in different locations in the State, shall apply electronically on the Online Portal of the Directorate of Industrial Safety and Health;

(ii) in case of more than one establishments other than factory or building and other construction works located in different locations in the State, shall apply electronically on the Online Portal of Labour Department,

in **FORM XII** to the licensing authority as notified by the Government under sub-section (1) of section 119 of the Code along with the licence fees of each establishment involved therein.

(2) All the provisions of rules 44 to 53 shall mutatis mutandis apply in case of the single licence granted under sub-rule (1).

**55. Responsibility of Payment of wages under section 55.**- (1) The contractor shall fix the wage periods in respect of which wages shall be payable and no wage period shall exceed one month.

(2) The wages of every person employed as contract labour in an establishment or by a contractor shall be paid before the expiry of seventh day after the last day of the wage period in respect of which the wages are payable.

(3) The wages shall be disbursed through bank transfer or electronic mode only.

**56. Making payment of wages from the security deposit amount under sub-section (4) of section 55.**-If the contractor or principal employer does not pay the wages to the contract labour employed by him, the Chief Inspector-cum-Facilitator or his representative or the competent officer as may be notified by the Government shall conduct or cause to conduct, an inquiry and after giving an opportunity to be heard to the contractor shall pass an order to make payment if any, of such wages from the amount deposited by the contractor as security deposit. The contractor shall re-furnish the security deposit within a period of fifteen days or else his licence will be liable to be suspended.

**57. Experience Certificate under section 56.**- Every concerned contractor shall issue on demand, experience certificate in **FORM XIV** to the contract labour giving details of the period, work performed, experience gained in various fields performed by such contract labour.

**58. Prohibition of employment of contract labour under sub-section (2) of section 57.**-(1) If a question arises as to whether any activity of an establishment is a core activity or otherwise, the aggrieved party may make an application in **FORM XV** giving reasons along with supporting documents to the Secretary, Labour Welfare and Skill Development Department of the Government.

(2) The Government shall refer the matter to the designated authority.

(3) The designated authority shall examine and report to the Government within fifteen days from the date of receipt.

(4) The Government shall pass an order based on the report received from the authorities referred in sub-rule (2), within fifteen days.

#### CHAPTER X.

##### Inter-State Migrant Worker.

**59. Journey allowance to Inter-State Migrant Worker under section 61.**-The employer shall pay to every inter-state migrant worker employed in his establishment, in a year a lump sum amount of fare for to and from journey to his native place from the place of his employment based on the following conditions, namely:-

(1) The minimum service of the worker entitled for journey allowance shall be one hundred and eighty days;

(2) The journey allowance shall be provided for minimum sleeper fare by train; and

(3) The employer shall pay a lump sum amount of one hundred rupees per family member per day for the period of travel of the worker (if family is staying with him at the location of his workplace) for food during the journey.

**60. Setting up of a Toll Free helpline number to the inter-state migrant worker under section 63.**-A Toll-Free help-line number shall be provided by the Government to address queries and grievances of the inter-state migrant workers.

**61. Study of inter-state migrant workers under section 64.**-The Government may identify the studies to be carried out to promote safety, health and welfare of inter-state migrant workers.

#### CHAPTER XI.

##### Audio-Visual Workers.

**62. Authority to whom the copy of the agreement for Audio- Visual worker shall be forwarded by the producer under sub-section (3) of section 66.**- The agreement for the audio-visual workers with the producer shall be registered with the competent authority as may be notified by the Government. A copy of the agreement with respect to the employment of the audio-visual worker shall, if such audio-visual worker is covered under the provision of any enactment for the time being in force for providing the benefit of provident fund to him, also be forwarded by the producer of the audio-visual program electronically on the designated portal of the Government, or by registered post, to the Joint Commissioner of Labour having jurisdiction.

**63. Procedure for reference of disputes to a Conciliation Officer or a Tribunal under sub-section (4) of section 66.**- The procedure for reference of disputes to a Conciliation Officer or a Tribunal shall be in conformity with the Industrial Relations Code, 2020 (Central Act 35 of 2020) and rules framed thereunder.

#### CHAPTER XII.

##### Beedi and Cigar Workers.

**64. Application for grant of Licence under sub-section (2) of section 74.**-(1) Every application under sub-section (2) of section 74 for a Licence to use or allow to be used in any place or premises as an industrial premises for Beedi and Cigar establishments shall be made electronically to the Licensing Authority as notified by the Government through Online Portal of Labour Department in **FORM XVI**.

(2) The applicant shall fill the application and upload the following documents namely:-

(a) Plans showing,-

(i) the site of such place or premises, the areas therein to be used for manufacturing processes and the immediate surroundings of such place or premises, including adjacent buildings, structures, roads, drains and the like ; and

(ii) the plan, elevation and necessary cross-sections of the details relating to natural lighting, ventilation, means of escape in case of fire, position of the plant and machinery, if any, used aisles and passage ways in or in relation to the various buildings which are intended to be used for manufacturing processes ; and

(b) Appropriate fee for the licence as specified in sub-rule (1) of rule 68 should be paid online.

(3) Before granting a licence, the Licencing Authority shall also take into consideration whether the site of any industrial premises is proposed to be altered or whether any industrial premises has been closed, by the applicant during the period of twelve months immediately preceding the date of the application with a view to causing prejudice to the interests of the labour.

**65. Form and terms and conditions of licence.**-(1) A licence granted under this Chapter shall be in **FORM XVII**.

(2) The terms and conditions subject to which such licence may be granted or renewed shall be the following, namely:-

- (i) The manufacturing process shall be carried on only in that part of the premises specified in the licence;
- (ii) The total number of employees employed in the premises shall not on any day, during the period of the licence, exceed that specified in the licence;
- (iii) No machinery or power which has not been specified in the licence shall be used in the manufacturing process in the premises;
- (iv) No industrial premises reconstructed or extended subsequent to the grant or renewal of the licence shall be used as industrial premises except with the written permission of the Licensing Authority;
- (v) The licence shall not be transferable from one employer to another except in the cases and in accordance with the procedure specified in rule 69;
- (vi) The fees paid shall not be refunded except in the cases specified in sub-rule (2) of rule 68;
- (vii) The Licensing Authority shall, before granting the licence, satisfy himself that new branches were opened by management by way only to expand business, and shall take into account the history of such management closing and opening business in that area;
- (viii) The Licensing Authority may, in addition to the foregoing terms and conditions, determine and specify in the licence such other terms and conditions, in individual cases as it may deem necessary.
- (ix) Licence issued under this rule shall be valid for a period of five consecutive calendar years commencing from the year in which the licence is granted.

**66. Renewal of licence.**-(1) (i) Every application for the renewal of licence shall be in **FORM XVII** and apply electronically on the Online Portal of Labour Department to the Licensing Authority as notified for renewal of the licence.

(ii) Every such application shall be submitted on the said portal atleast thirty days prior to expiry of licence period:

Provided that if the application for renewal is not received within the time specified in sub-rule (2), an additional fee of 25% for renewal is sent within a period of one month from the date of expiry of licence, an additional fee of 50% for renewal is sent after the expiry of one month but within two month of date of the expiry of the licence, and an additional fee of 100% for renewal is sent after the expiry of two months and within three months from the date of expiry of licence in addition to the fees prescribed under sub-rule(1) of rule 68 for the renewal of the licence shall be payable for such renewal.

**(2) Refusal to grant a licence in certain cases.**-Subject to the provisions of section 74(4) of the Code, the concerned Inspector-cum-Facilitator may refuse to grant a licence if he is satisfied-

- (i) that an online application is not accompanied by the documents; or
- (ii) that the conditions subject to suitability of the place or premises have not been complied with; or
- (iii) if not having the sufficient financial resources or financial capacity to meet the demands arising out of the provisions of the laws for the time being in force relating to welfare of labour;
- (iv) if benami of any other person.

**67. Appeals under section 75.**- (1) An appeal under section 75 of the Code shall be made electronically to the appellate authority as notified by the Government within a period of thirty days from the date of receipt of the order sought to be appealed against.

(2) The fees payable in respect of an appeal under section 75 of the Code shall be Rs.500/-

**68. Fees.**-(1) The fees to be paid for the grant or renewal of a licence under section 74 shall be as specified in the Table below:-



THE TABLE.

		<i>Fees for Industrial premises in which power driven machinery is used (in Rupees)</i>	<i>Fees for Industrial premises in which power driven machinery is not used (in Rupees)</i>
<i>Serial</i>	<i>Number of workers</i>		
(a)	10 – 20	2,000	1,400
(b)	21-50	5,500	3,400
(c)	51-100	10,000	6,800
(d)	101-250	20,000	17,000
(e)	250 and above	37,000	34,000

(2) (i) If the Licensing Authority refuses to grant or renew any licence under section 74, it shall order the refund of the fees paid thereof.

(ii) If no industry or manufacturing process connected with the making of beedi or cigar is carried on in an industrial premises at any time during the period of validity of the licence in respect thereof, the licence may within a period of three months from the last date of the financial year for which the licence was granted or renewed, apply to the competent authority for the refund of the fee paid by him for such Licence and the competent authority shall, after making such enquiry as he may deem necessary and after satisfying himself about the correctness of the statements made in the application, order refund of such fee.

(3) (i) A licence granted or renewed under the Code and these rules may be amended by the licensing authority on an application from the licensee;

(ii) The application for the amendment of a licence shall be accompanied by.-

- (a) A statement indicating the nature of the amendment required;
- (b) A statement showing the change in particulars already furnished in **FORM XVI** under rule 64 which necessitate the application for amendment;
- (c) Fresh plans as provided in rule 64 in cases where the plans submitted with the original application no longer hold good;
- (d) the licence granted to be uploaded.

(iii) The amount that would have been payable if the licence had originally been issued in the amended form deducting the fee originally paid for the licence.

(iv) An application for the amendment of the licence shall be dealt with by the Licensing Authority in the same manner as an application for grant of a licence.

**69. Procedure on death or insolvency of Licensee.**-(1) If a licensee dies or becomes insolvent, the person carrying on the business of such licensee shall apply through the online portal of the Labour Department for grant of licence in his own name for the unexpired period of the original licence within thirty days from date of death or insolvency.

(2) The licensing authority shall, if approves it, enter the licence under his signature and endorsement to the effect that the licence has been granted to the applicant.

(3) An application for the licence under this rule shall be dealt with by the Licensing Authority in the same manner as an application for the grant of a licence.

**70. Single Licence for more than one beedi and cigar establishment in Tamil Nadu.**-(1) The beedi and cigar establishment opting for a single licence under section 74, for engaging labour in more than one Beedi and cigar establishments located in various locations in Tamil Nadu, shall apply electronically on the Online Portal of Labour Department, in **FORM XVI** to the Licensing Authority as notified by the Government under sub- section (1) of section 119 of this Code along with the cumulative licence fees of each establishment involved therein.

(2) All the provisions of rules 64 to 69 shall apply mutatis mutandis in case of the single licence granted under sub-rule (1)

**71. Permission to work by employees outside industrial premises under section 76.**-(1) The employer on behalf of the employees, who are engaged in wetting or cutting of beedi or tobacco leaves outside the industrial premises shall apply for permission to the licensing authority in the Online Portal of Labour Department.

(2) The Licensing Authority on receipt of the application electronically in **FORM XVIII** may consider the following and issue permission electronically within seven days from the date of receipt of application:-

(i) The employer who applies for the above permission shall have valid licence issued under section 74 for such premises.

(ii) The suitability of the place where it is proposed to be used for wetting or cutting of beedi or tobacco leaves.

(iii) Wetting or cutting of beedi or tobacco leaves shall be carried on only in that place where permission is granted.

(iv) The total number of employees employed by the employer for wetting or cutting of beedi or tobacco leaves outside the industrial premises shall not exceed the total number of workers for which issued under section 74.

(v) The Licensing Authority may, in addition to the foregoing terms and conditions, determine and specify in the permission such other terms and conditions, in individual cases as it may deem necessary.

(3) The employer shall maintain the record of the work permitted under sub-rule (2) to be carried outside the industrial premises in **FORM XVIII-A**, Home – workers Log Book in **FORM XVIII-B**, Service Book in **FORM XVIII-C**, Register of Service Book in **FORM XVIII-D**, Home worker-Employment Register in **FORM XVIII-E** and Home worker-Overtime register in **FORM XVIII-F**.

#### CHAPTER XIII.

##### Factories.

**72. Approval of site, construction or extension of a factory.**-(1) (i) No site shall be used for the location of a factory or no building in a factory be constructed, reconstructed extended or taken into use as a factory or part of a factory, or no installation of plant or machinery carried out in a factory without the previous permission in writing of the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator as the case may be. The previous permission of the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator as the case may be shall also be obtained for the installation of additional machinery or for the installation of prime movers exceeding the horse-powers already installed in the factory.

(ii) The Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator as the case may be may require, for the purpose of the Code, submission of plans of building/premises to be taken in use as a factory which was either in existence on the date of commencement of the Code or which had been constructed or extended since then.

(2) Application for such permission or submission of plans shall be made in **FORM XIX** through Online Portal of Directorate of Industrial Safety and Health. It shall be accompanied by the following documents, namely:-

(i) a flow chart of the manufacturing, process supplemented by a brief description of the process in its various stages, including the chemicals used, if any, in the various stages of the process and the steps proposed to be taken for effective removal of dust, fumes, gases and regarding the proper and effective disposal of trade wastes and effluents;

(ii) plans drawn to scale showing,-

(a) the site of the factory and immediate surroundings including adjacent buildings and other structures, roads, drains, and the like ; and

(b) the plan elevation and necessary cross sections of various buildings indicating all relevant details relating to natural lighting, ventilation and means of escape in case of fire. The plans shall also clearly indicate the position of the plant and machinery, aisles and Passageways.

(iii) a certificate from the Tamil Nadu Pollution Control Board, to the effect that the arrangements made for disposal of industrial liquid wastes, effluents and air pollutants in the case of complex chemical factories and regarding the steps taken for proper disposal of wastes and effluents are effective;

(iv) such other particulars as the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be, may require.

(3) After examination of the documents referred to in sub-rule (2), the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be, may accord the permission applied for:

Provided that the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator as the case may be, may call for such other particulars as he may require before according such permission:

Provided further that the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be, may accord such permission electronically subject to such conditions as considered necessary.

(4) The fact that the permission applied for is accorded shall be noted on the plans and specifications and shall be signed by the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be. One copy of each of the said plans and specifications shall be returned electronically to the applicant.

(5) (i) A factory or part of a factory constructed, reconstructed, extended or taken into use, shall be in accordance with the plans approved by the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be and shall satisfy the conditions subject to which the plans have been approved.

(ii) No machine or prime mover or a permanent fixture not shown in the plans approved by the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be, shall be installed, fixed or used in any factory except in replacement of any machine, prime mover or a permanent fixture not occupying more floor area than that already shown in the approved plans.

(6) Plans which have already been approved by the Chief / Joint Chief / Deputy Chief Inspector-cum-Facilitator under the Factories Act, 1948 (Central Act 63 of 1948) before the coming into force of these rules, shall be deemed to have been approved under these rules.

(7) The plans approved by the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be, shall be readily available in the factory for inspection by the Inspector-cum-Facilitator.

(8) The plans and layouts of factory buildings sent to the Chief Inspector-cum-Facilitator or Joint Chief Inspector-cum-Facilitator or Deputy Chief Inspector-cum-Facilitator, as the case may be for approval under this rule shall be prepared by a person possessing a diploma or degree in Engineering.

(9) No manufacturing process shall be carried on in any factory constructed, extended or taken in to use as a factory or part of a factory until a Certificate of Stability in **FORM XX** in respect of the buildings has been sent by the occupier of the factory to the Inspector-cum-Facilitator.

Provided that the Certificate of Stability sent by the occupier to the Inspector-cum-Facilitator as required in this rule shall be valid only for a period of three years from the date of its issue and within thirty days after the expiry of the said period, a fresh certificate of stability shall be sent to the Inspector-cum-Facilitator.

The certificate of stability referred to in sub-rule (9) shall be signed by a competent person recognised by the Chief Inspector-cum-Facilitator under rule 158 for that purpose.

(10) An occupier shall not use any premises as a factory or carry on any manufacturing process in a factory unless a licence has been issued in respect of such premises and is in force for the time being

**73. Grant of licence for a factory.**-(1) No premises shall be used as factory nor any manufacturing process carried on in any factory except under, and in accordance with, the licence granted under these rules.

(2) An application for grant of a licence to a factory shall be submitted electronically to the jurisdictional Deputy Chief Inspector-cum-Facilitator in **FORM XXI** through Online Portal of Directorate of Industrial Safety and Health.

(3) The online application in **FORM XXI** shall be made with e-Payment of appropriate licence fee specified in the table appended hereto.

(4) If the Deputy Chief Inspector-cum-Facilitator is satisfied that the licence may be granted, such licence shall be issued electronically in **FORM XXII**:

Provided that the Deputy Chief Inspector-cum-Facilitator may call for such other particulars as may be required before grant of such licence:

Provided further that the Deputy Chief Inspector-cum-Facilitator may grant licence subject to such conditions as considered necessary and which shall be specified in the licence.

(5) The Occupier of a factory may opt to remit the licence fees for obtaining initial licence for a period up to fifteen consecutive calendar years, instead of getting it renewed for every calendar year. Occupier shall make a specific request in **FORM XXI** indicating the number of years for which licence is sought for. In such cases the fees payable for the grant of licence to a factory shall be proportionate to the annual fees as per the table multiplied by the number of years for which the licence is sought for.

(6) If the licence fee is enhanced, the difference between the enhanced fee and the fee already paid for the licence shall be paid from the date on which the amendment come into force.

(7) Every licence granted or renewed under this chapter shall remain in force up to and inclusive of the 31st December of the year for which the licence is granted or renewed.

TABLE.

Total Horse Power installed inclusive of Mobile Equipment	Number of Persons employed on any day during the calendar year										
	Up to 9	10 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1000	1001 to 2000	2001 to 5000	5001 to 10000	Above 10000
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	(Fees Payable in Rupees)										
Nil Horse Power	800	1600	2400	3200	7200	10800	24000	36000	66000	96000	120000
Up to 10 Horse Power	1600	2400	3200	4800	10800	18000	48000	72000	108000	144000	180000
Above 10 Horse Power Up to 50 Horse Power	2400	3200	4800	7200	18000	28800	72000	108000	144000	180000	216000
Above 50 Horse Power Up to 129 Horse Power	3200	4800	7200	12000	28800	48000	108000	144000	180000	216000	240000
Above 129 Horse Power Up to 250 Horse Power	4800	7200	12000	19200	48000	72000	144000	180000	216000	240000	264000
Above 250 Horse Power Up to 500 Horse Power	7200	12000	16000	25600	72000	96000	180000	216000	240000	264000	288000
Above 500 Horse Power Up to 1000 Horse Power	12000	12800	25600	48000	96000	120000	216000	240000	264000	288000	312000
Above 1000 Horse Power Up to 2000 Horse Power	12800	25600	48000	64000	120000	144000	240000	264000	288000	312000	336000

Total Horse Power installed inclusive of Mobile Equipment	Number of Persons employed on any day during the calendar year										
	Up to 9	10 to 20	21 to 50	51 to 100	101 to 250	251 to 500	501 to 1000	1001 to 2000	2001 to 5000	5001 to 10000	Above 10000
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	(Fees Payable in Rupees)										
Above 2000 Horse Power Upto 5000 Horse Power	25600	48000	64000	80000	144000	168000	264000	288000	312000	336000	360000
Above 5000 Horse Power Up to 7500 Horse Power	48000	64000	80000	96000	168000	192000	288000	312000	336000	360000	384000
Above 7500 Horse Power Up to 10000 Horse Power	64000	80000	96000	112000	192000	216000	312000	336000	360000	384000	408000
Above 10000 Horse Power	80000	96000	112000	128000	216000	240000	336000	360000	384000	408000	432000

**74. Amendment of licence.**-(1) The limits specified in the licence granted to a factory in regard to horse power or the number of persons employed shall not be altered or the name of the factory changed unless the licence has been amended by the Deputy Chief Inspector-cum-Facilitator having jurisdiction over the area where the factory is situated.

(2) An application for the amendment of a licence granted to a factory shall be submitted through Online Portal of Directorate of Industrial Safety and Health to the Deputy Chief Inspector-cum-Facilitator having jurisdiction over the area where the factory is situated, specifying the nature of the amendment sought and the reasons therefor, prior to the date on which the applicant desires the amendment to take effect, along with an additional fee payable as per the Table in sub-rule (7) of rule 73.

(3) On the receipt of such application, the Deputy Chief Inspector-cum-Facilitator may amend the licence suitably:

Provided that the Deputy Chief Inspector-cum-Facilitator may call for such other particulars as he may require before amending the licence:

Provided further that the Deputy Chief Inspector-cum-Facilitator may amend the licence subject to such conditions as he may consider necessary and which shall be specified in the licence.

(4) The amendment made shall be incorporated in the licence.

**75. Renewal of licence.**-(1) No premises shall be used as a factory nor any manufacturing process carried on in any factory except under, and in accordance with, the licence renewed under these rules.

(2) The occupier of every factory licenced under rule 73, shall submit to the Deputy Chief Inspector-cum-Facilitator having jurisdiction over the area where the factory is situated, an application in **FORM XXI** through Online Portal of Directorate of Industrial Safety and Health, for the renewal of the licence. The online application for such renewal shall be made not less than two months before the date on which the licence expires.

(3) The same fee shall be charged for the renewal of a licence as for the grant thereof:

Provided that if the online application for renewal is not received within the time specified in sub-rule (2), the licence shall be renewed only on payment of Late fee of,-

(i) ten percentum of the fee payable, if the online application for the renewal is received in the month of November of the year for which the licence is granted or renewed;

(ii) twenty percentum of the fee payable, if the online application for renewal is received in the month of December of the year for which the licence is granted or renewed;

(iii) thirty percentum of the fee payable, if the online application for renewal is received after the expiry of the licence:

Provided further that if the occupier of the factory opts to remit the fee for the renewal of licence for a period upto fifteen consecutive calendar years instead of getting it renewed for every calendar year he shall indicate in **FORM XXI**, the number of years for which the licence is required.

(4) If the online application has been made in accordance with this rule, the premises shall be held to be duly licenced until such date as the Deputy Chief Inspector-cum-Facilitator may pass orders on the online application for the renewal.

(5) If the licence fee is enhanced, the difference between the enhanced fee and the fee already paid for the licence shall be paid from the date of on which the amendment come into force.

**76. Refusal to grant a licence in certain cases.**-(1) Subject to the provisions of clause (c) of sub-section (1) of section 79 of the Code, the Chief Inspector-cum-Facilitator may refuse to grant a licence if he is satisfied,-

(i) that an online application is not accompanied by the documents referred to in rule 73; or

(ii) that the conditions subject to which permission was accorded under rule 72 have not been complied with; or

(iii) that there is imminent danger to human life in the factory due to explosive or inflammable dust, gas or fumes and effective measures, in his opinion, have not been taken to remove such danger; or

(iv) that there is imminent danger to human life due to the building or the entrances thereto or exists there from being in a dangerous or structurally unsound condition, and effective measures in his opinion, have not been taken to remove the danger.

(2) Where a Deputy Chief Inspector-cum-Facilitator is of the opinion that there is prima facie case to refuse to grant a licence for all or any of the reasons stated in sub-rule (1), he shall forward to the Chief Inspector-cum-Facilitator the online application for grant of licence received from an occupier of the factory to pass such orders as he deems fit.

**77. Transfer of licence.**-(1) The holder of a licence or any person carrying on the business of such licensee may, before expiry of the licence, apply through Online Portal of the Directorate of Industrial Safety and Health to transfer the licence to another person or to himself, as the case may be.

(2) The Deputy Chief Inspector-cum-Facilitator concerned, if he approves of the transfer, enter upon the licence under his signature, an endorsement to the effect that the licence has been transferred to the person named:

Provided that the Deputy Chief Inspector-cum-Facilitator concerned may call for such other particulars as he may require before effecting the transfer:

Provided further that the Deputy Chief Inspector-cum-Facilitator concerned may effect such transfer subject to such conditions as he may consider necessary and which shall be specified in the licence.

(3) No person shall carry on the business unless the licence is transferred as per sub-rule (2) and the person carrying on the business shall be liable for penalty under the Code.

**78. Procedure on death or insolvency of Licensee.**-(1) If a licensee dies or becomes insolvent, the person carrying on the business of such licensee shall apply through the online portal of the Directorate of Industrial Safety and Health for grant of the licence in his own name for the unexpired period of the original licence within thirty days from date of death or insolvency.

(2) The Licensing Authority shall, if approves it, enter the licence under his signature and endorsement to the effect that the licence has been granted to the applicant.

(3) An application for the licence under this rule shall be dealt with by the Licensing Authority in the same manner as an application for the grant of a licence.

**79. Common Licence for Factories located in different locations in the State.**-(1) The occupier opting for a common licence for more than one factory located in different locations in Tamil Nadu, shall apply electronically on the Online Portal of the Directorate of Industrial Safety and Health in **FORM XXI** to the licensing authority as notified by the Government under sub-section (1) of section 119 of this code along with the cumulative licence fees of each factory involved therein.

(2) All the provisions of rules 73 to 78 shall mutatis mutandis apply in case of the common licence granted under sub-rule (1).

**80. Liability of owner of the premises under section 80.**—The owner of the premises and the occupiers of the factories utilizing common facilities shall be jointly and severally responsible for provision and maintenance of.—

(1) Latrines, urinals, washing facilities and drinking water in so far as the maintenance of the common supply of water for these purposes is concerned;

(2) Safe maintenance of machinery and plant such as hoists and lifts, pressure plant belonging to the owner and not specifically entrusted to the custody or use of an occupier;

(3) Prevention of Overcrowding and provision for Disposal of wastes and effluents;

(4) Safety of buildings, internal roads, pits, sumps and openings in floors.

**81. Dangerous operations.**—(1) The following operations when carried on in any factory are declared to be dangerous operations under section 82.—

(1) Manufacture of aerated waters and other bottling processes;

(2) Phosphating, Electrolytic plating or oxidation of metal articles by use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold etc;

(3) Manufacture and repair of Electric Accumulators;

(4) Glass manufacture;

(5) Grinding or glazing of metals and processes incidental thereto;

(6) Manufacture and treatment of Lead and certain compounds of Lead;

(7) Generation of gas from dangerous petroleum;

(8) Cleaning, Smoothing, Roughening etc., of articles by a jet of sand metal shot or grit or other abrasive propelled by a blast of compressed air or steam;

(9) Liming and Tanning of raw hides and skins, Wet Leather finishing and processes incidental thereto;

(10) Painting, Powder Coating and process incidental thereto;

(11) Graphite Powdering;

(12) Printing Press And Type Foundries - Certain Lead process carried on therein;

(13) Cashew nut processing;

(14) Dyeing, Stenciling, Printing and incidental processes;

(15) Pottery;

(16) Chemical Works;

(17) Manufacture of Dichromates;

(18) Compression of Oxygen and Hydrogen produced by the electrolysis of water;

(19) Manipulation of stone or any other material containing free silica;

(20) Handling and processing of Asbestos, Manufacture of any article or substance of Asbestos and any other process of manufacture or otherwise in which asbestos is used in any form;

(21) Handling and manipulation of Corrosive Substances;

(22) Manufacture or Manipulation of Carcinogenic Dye Intermediates;

(23) Process of Extracting Oils and Fats in Solvent Extraction Plants;

(24) Fire Works Manufactories and Match Factories;

(25) Manufacture or Manipulation of Manganese and its Compounds;

(26) Carbon-Disulphide Plants;

(27) Manufacture, handling and use of Benzene;

(28) Operations involving High Noise and Vibration Levels;

- (29) Manufacture or manipulation of dangerous pesticides;
- (30) Manufacture of Rayon by Viscose Process;
- (31) Flammable Liquefied or Compressed Gases and Highly Flammable Liquids;
- (32) Operations in Foundries and Furnaces;
- (33) Operations Involving Compressed Air Working Environment;
- (34) Welding, Soldering and Brazing;
- (35) Manufacturing and processing of textiles;
- (36) Processing of Rubber and plastic compounds;
- (37) Forging, Forming, Heat Treatment and incidental processes; and
- (38) Manufacturing of Paper, Paper boards and allied products.

(2) (i) The fee for medical examination of employees by the Medical Officer as required by the Schedules annexed to this rule, shall be Rs.200/- (Rupees two hundred only) for each examination of any such employee.

(ii) The fee charged in clause (i) shall be exclusive of any charges for biological, radiological or other tests which may have to be carried out in connection with the medical examination. Such charges shall be paid by the occupier.

(iii) The Occupier shall pay the fees through the Online Portal of Directorate of Industrial Safety and Health (DISH).

(3) The provisions specified in the Schedules annexed hereto shall apply to any class or description of factories wherein dangerous operations specified in each schedule are carried out.

(4) If in respect of any factory or a part thereof, the Chief Inspector-cum-Facilitator is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the schedules is not necessary for protection of the employees in the factory, the Chief Inspector-cum-Facilitator may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to Such conditions, if any, as he may specify therein.

(5) Notwithstanding the provisions specified in the Schedules annexed to this rule, the Inspector-cum-Facilitator may by issue of orders in writing to the occupier, direct them to carry out such measures, and within such time, as may be specified in such order with a view to remove conditions dangerous to the health of the employees, or to suspend any process, where such process constitutes, in the opinion of the Inspector-cum-Facilitator, imminent danger of poisoning or toxicity.

(6) Any register or record of medical examinations and tests connected therewith required to be carried out under any of the annexed Schedules I to XXXVIII in respect of any employee shall be kept readily available to the Inspector-cum-Facilitator and shall be preserved till the expiry of one year after the employee ceases to be in employment of the factory.

(7) First employment means employment for the first time in a hazardous process or operation so specified under section 82, or re-employment therein after cessation of employment in such process or operation for a period exceeding three calendar months.

(8) Without prejudice to the medical examination mentioned in rule 6, the employees above 45 years of age shall be subjected to the medical examination as per the provisions of the annexed Schedules I to XXXVIII.

(9) No pregnant women shall be employed or permitted to work in the process area covered under the Schedules II,III,IV, V,VI,VII,VIII,IX,X,XI,XII,XIII,XIV,XV,XVI,XVII,XIX,XX,XXI,XXII, XXIII, XXIV, XXV, XXVII, XXIX, XXXII, XXXIV and XXXVII without prejudice to the provisions contained in the schedules.

**82. Site appraisal committee.**-(1) The Government may, for purposes of advising it to consider applications for grant of permission for the initial location of a factory involving a hazardous process or for the expansion of any such factory, constitute a Site Appraisal Committee consisting of-

(a) the Chief Inspector-cum-Facilitator- Chairman;

(b) a representative of the Central Pollution Control Board for the Prevention and Control of Water and Air Pollution under **section 3** of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act 6 of 1974) and section 3 of the Air (Prevention and Control of Pollution) Act, 1981(Central Act 14 of 1981)- Member;

(c) a representative of the Tamil Nadu Pollution Control Board for the Prevention and Control of Water and Air Pollution under section 4 of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act 6 of 1974) and section 5 of the Air (Prevention and Control of Pollution) Act, 1981 (Central Act 14 of 1981)- Member;



- (d) a representative of the Department of Environment, Climate Change and Forest in the State - Member;
  - (e) a representative of the Meteorological Department of the Government of India- Member;
  - (f) a representative of the Directorate of Town and Country Planning of the Government- Member;
  - (g) an expert in the field of occupational safety and health nominated by Government- Member;
- and not more than four other members who may be co-opted by the Chairman on the need basis who shall be-
- (h) two experts having specialised knowledge of the hazardous process which will be involved in the factory;
  - (i) a representative of the local authority within whose jurisdiction the factory is to be established;

(j) a representative nominated by the Central Government if any process relates to a factory owned or controlled by the Central Government or to a corporation or a company owned or controlled by the Central Government.

(2) No member of the Site Appraisal Committee unless required to do so by a Court of Law, shall disclose otherwise than in connection with the purpose of Act, at any time any information relating to manufacturing or commercial business or any working process which may come to his knowledge during his tenure as a Member on this Committee.

(3) The Site Appraisal Committee shall have power to call for any information from the person making an application for the establishment or expansion of a factory involving a hazardous process.

(4) Applications for appraisal of sites-

(i) Applications for appraisal of sites in respect of the Factories covered under the First Schedule under Section 2 (za) of the code shall be submitted to the Chairman of the Site Appraisal Committee.

(ii) The application for site appraisal along with fifteen copies thereof shall be submitted in the **FORM XXVI**. The Committee may dispense with furnishing information on any particular item in the Application Form if it considers the same to be not relevant to the application under consideration.

(5) Functions of the Committee:

(i) The Chairman shall arrange to register the applications received for appraisal of site in a separate register and acknowledge the same within a period of seven days.

(ii) The Chairman shall fix up meeting in such a manner that all the applications received and registered are referred to the Committee within a period of one month from the date of their receipt.

(iii) The Committee may adopt a procedure for its working keeping in view of the need for expeditious disposal of applications.

(iv) The Committee shall examine the application for appraisal of a site with reference to the prohibitions and restrictions on the location of industry and the carrying on of processes and operations in different areas as per the provisions of rule 5 of the Environment (Protection) Rules, 1986 framed under the Environment (Protection) Act, 1986 (Central Act 29 of 1986).

(v) The Committee may call for documents, examine experts, inspect the site if necessary and take other steps for formulating its views in regard to the suitability of the site.

**83. Disclosure of information to workers.**-(1) The Occupier of a factory carrying on a hazardous process shall supply to all workers the following information in relation to handling of hazardous materials or substances in the manufacture, transportation, storage and other processes:-

- (i) Requirements of sections 84 and 85 of the Code;
- (ii) A list of hazardous processes carried on in the factory;
- (iii) Location and availability of all Material Safety Data Sheets as per the annexed Schedule XXXIX;
- (iv) Physical and health hazards arising from the exposure to or handling of substances;
- (v) Measures taken by the occupier to ensure safety and control of physical and health hazards;
- (vi) Measures to be taken by the workers to ensure safe handling, storage and transportation of hazardous substances;
- (vii) Personal Protective Equipment required to be used by workers employed in hazardous process or dangerous operations;
- (viii) Meaning of various labels and markings used on the containers of hazardous substances;

- (ix) Signs and symptoms likely to be manifested on exposure to hazardous substances and to whom to report;
- (x) Measures to be taken by the workers in case of any spillage or leakage of a hazardous substance;
- (xi) Role of workers vis-a-vis the emergency plan of the factory in particular the evacuation procedures; and
- (xii) Any other information considered necessary by the occupier to ensure safety and health of workers.

(2) The information required by sub-rule (1) shall be compiled and made known to workers individually through supply of booklets or leaflets and display of cautionary notices at the work places.

(3) The booklets, leaflets and the cautionary notices displayed in the factory shall be in the language understood by the majority of the workers, and also explain to them.

(4) The Chief Inspector-cum-Facilitator may direct the Occupier to supply further information to the workers as deemed necessary.

**84. Disclosure of information to the Chief Inspector-cum-Facilitator.**-(1) The Occupier of every factory carrying on "hazardous process" shall furnish in writing to the Chief Inspector-cum-Facilitator a copy of all the information furnished to the workers.

(2) A copy of compilation of Material Safety Data Sheets in respect of hazardous substances used, produced or stored in the factory shall be furnished to the Chief Inspector-cum-Facilitator and the local Inspector-cum-Facilitator.

(3) The Occupier shall also furnish any other information asked for by the Chief Inspector-cum-Facilitator from time to time for the purpose of this Code and these rules.

**85. Disclosure of information to the local authority.**-The Occupier of every factory carrying on a "hazardous process" shall furnish the following information in writing to the Panchayat Unions, Townships, Municipalities or Corporations having jurisdiction over the target area in which the factory is situated,-

(i) The information furnished to general public as prescribed in rule 86;

(ii) A statement of the names and the quantities generally stored or in process of hazardous substances included in the list of chemicals prescribed under clauses (vi) and (vii) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 (Central Act 29 of 1986);

Explanation.- The 'target area' mentioned under this rule means the area which might be affected by an accident.

**86. Disclosure of information to general public.**-(1) The Occupier of every factory carrying on a hazardous process shall in consultation with the District Emergency Authority designated by the Government, take appropriate steps to inform the general public who are likely to be in the area which may be affected by an accident. Such information shall include,-

(i) Name of the factory and address where situated;

(ii) Identification, by name and position of the person giving the information;

(iii) Confirmation that the factory has approval from the Directorate of Industrial Safety and Health and Pollution control board;

(iv) An explanation in simple terms of a hazardous process (es) carried on in the premises;

(v) The common names of the hazardous substances used which could give rise to an accident likely to affect them, with an indication of their principal harmful characteristics;

(vi) Brief description of the measures to be taken to minimize the risk of such an accident in compliance with its legal obligations under relevant safety statutes;

(vii) Salient features of the approved disaster control measures adopted in the factory;

(viii) Details of the factory's emergency warning system for the general public;

(ix) General advice on the action, members of the public should take on hearing the warning;

(x) Brief description of arrangements in the factory, including liaison with the emergency services, to deal with the foreseeable accidents of such nature and to minimize their effects; and

(xi) Details of where further information can be obtained.

(2) The occupier shall also supply any further information,-

(i) to general public as directed by the District Emergency Authority from time to time;

(ii) to the elected representatives of the general public on request

(3) The occupier shall endeavour to enter an agreement with the District Emergency Authority for the area, with in whose jurisdiction the factory is situated, for the District Emergency Authority to take appropriate steps to inform the general public outside the factory who are likely to be affected by an accident as required in sub-rule (1).

(4) The information in sub-rule (1) shall be in Tamil, English and in the language understood by majority of the public in the vicinity.

**87. Health and Safety Policy.**-(1) The occupier of every factory, except as provided for in sub-rule (2), shall prepare a written statement of his policy in respect of health and safety of workers at work.

(2) All factories,-

(i) covered under section 2 (w) (i) of the Code but employing less than fifty workers;

(ii) covered under section 2 (w) (ii) but employing less than one hundred workers are exempted from requirements of sub-rule (1):

Provided that they are not covered under the First Schedule under section 2 (za) or carrying out processes or operations declared to be dangerous under section 82 of the Code.

(3) Notwithstanding anything contained in sub-rule (2), the Chief Inspector-cum-Facilitator may require the occupiers of any of the factories or class or description of factories to comply with the requirements of sub-rule (1), if, in his opinion, it is expedient to do so.

(4) The Health and Safety Policy should contain or deal with,-

(i) declared intention and commitment of the top Management to health, safety and environment and compliance with all the relevant statutory requirements;

(ii) organisational set up to carry out the declared policy clearly assigning the responsibility at different levels; and

(iii) arrangements for making the policy effective.

(5) In particular, the policy should specify the following:-

(i) arrangements for involving the workers;

(ii) intention of taking into account the health and safety performance of individuals at different levels while considering their career advancement;

(iii) fixing the responsibility of the contractors, sub-contractors, transporters and other agencies entering the premises;

(iv) providing a resume of health and safety performance of the factory in its Annual Report;

(v) relevant techniques and methods, such as safety audits and risk assessment for periodical assessment of the status on health, safety and environment and taking all the remedial measures;

(vi) stating its intentions to integrate health and safety, in all decisions, including those dealing with purchase of plant, equipment machinery and material as well as selection and placement of personnel; and

(vii) arrangements for informing, educating and training and retaining its own employees at different levels and the public, wherever required;

(6) A copy of the declared Health and Safety Policy signed by the occupier shall be made available to the Inspector-cum-Facilitator having jurisdiction over the factory and to the Chief Inspector-cum-Facilitator.

(7) The policy shall be made widely known by -

(i) making copies available to all workers including contract workers, apprentices, transport workers, suppliers, etc.;

(ii) displaying copies of the policy at conspicuous places; and

(iii) any other means of communication in a language understood by majority of workers.

(8) The occupier shall revise the Safety Policy as often as may be appropriate, but it shall necessarily be revised under the following Circumstances:-

(i) Whenever any expansion or modification having implications on safety and health of persons at work is made; or

(ii) Whenever new substance(s) or articles are introduced in the manufacturing process having implications on health and safety of persons exposed to such substances.

**88. Information on Industrial Wastes.**-(1) The information furnished under rules 84 and 85 shall include the quantity of the solid and liquid wastes generated per day, their characteristics and the method of treatment such as incineration of solid wastes, chemical and biological treatment of liquid wastes, and arrangements for their final disposal.

(2) It shall also include information on the quality and quantity of gaseous waste discharged through the stacks or other openings and arrangements such as provision of scrubbers, cyclone separators electrostatic precipitators or similar such arrangement made for controlling pollution of the environment.

(3) The Occupier shall also furnish the information in the sub-rules (1) and (2) to the State Pollution Control Board.

**89. Cautionary Notice to Public.**- Notwithstanding anything contained on the information furnished by the occupier, a Cautionary notice showing all the information regarding danger, physical and health hazards and the measure to overcome such hazards arising from the exposure to hazardous substance like solid, liquid and gaseous products evolved by the hazardous process or discharged as waste or accidental release, quantity of hazardous chemicals shall be prominently displayed near the factory entrance gate. Such display shall be in Tamil and in the language understood by the majority of the general public in the vicinity.

**90. Making available Health Records to Workers.**-(1) The Occupier of every factory carrying out an "hazardous process" shall make accessible the health records including the record of worker's exposure to hazardous process or, as the case may be, the medical records of any worker for his perusal under the following conditions:-

- (i) Once in every six months or immediately after the Medical examination whichever is earlier;
- (ii) If the Factory Medical Practitioner is of the opinion that the worker has manifested signs and symptoms of any notifiable disease as specified in the Third Schedule of the Code;
- (iii) If the worker leaves the employment;
- (iv) If any one of the following authorities so direct-
  - (a) An Inspector-cum-Facilitator notified under the code
  - (b) District Health Officer
  - (c) The Commissioner of Workmen's Compensation
  - (d) The Director General, Employees' State Insurance Corporation
  - (e) The Director, Employees' State Insurance Corporation (Medical Benefits)
  - (f) The Director-General, Factory Advice Service and Labour Institutes.

(2) A copy of the up to-date health records including the records of worker's exposure to hazardous process or as the case may be, the medical records shall be supplied to the worker, on receipt of an application from him. X-ray plates and other medical diagnostic reports may also be made available for reference to his medical practitioner.

**91. Medical Examination.**-(1) Workers employed in a "hazardous process" shall be medically examined by a qualified medical practitioner hereinafter referred to as Factory Medical Practitioner in the following manner:

- (i) Prior to employment, to ascertain the physical fitness of the person to do the particular job.
- (ii) Once in a period of six months, to ascertain the health status of all the workers in respect of occupational health hazards to which they are exposed; and in cases where in the opinion of the Factory Medical Practitioner/Inspector-cum-Facilitator it is necessary to do so at a shorter interval in respect of any workers.
- (iii) The details of pre-employment and periodical examinations carried out as aforesaid shall be recorded in the Health Register in **FORM XXIV**.

(2) No person shall be employed for the first time without a Certificate of Fitness in **FORM XXIII** granted by the Factory Medical Practitioner. If the Factory Medical Practitioner declares a person unfit for being employed in any process covered under sub-rule (1), such a person shall have the right to appeal to the Inspector-cum-Facilitator who shall refer the matter to the Medical Officer whose opinion shall be final in this regard. If the Inspector-cum-Facilitator is also a Medical Officer, he may dispose of the application himself.

(3) Any findings of the Factory Medical Practitioner revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Medical Officer who shall in turn, examine the concerned worker and communicate his findings to the occupier within thirty days. If the Medical Officer is of the opinion that the workers examined is required to be taken away from the process for health protection, he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the worker so taken away shall be provided with alternate placement unless he is in the opinion of the Medical Officer, fully incapacitated in which case the worker affected shall be suitably rehabilitated.

(4) A Medical Officer on his own motion or on a reference from an Inspector-cum-Facilitator may conduct medical examination of a worker to ascertain the suitability of his employment in a hazardous process or for ascertaining his health status. The opinion of the Medical Officer in such a case shall be final. The fee required for this medical examination shall be paid by the occupier.

(5) The worker taken away from employment in any process under sub-rule (2) may be employed again in the same process only after obtaining the Fitness Certificate from the Medical Officer and after making entries to that effect in the Health Register.

(6) The worker required to undergo medical examination under these rules and for any medical survey conducted by or on behalf of the Central or the State Government shall not refuse to undergo such medical examination.

**92. Occupational Health Centers.**-(1) In respect of any factory carrying on "hazardous process" there shall be provided and maintained in good order an Occupational Health Centre with the services and facilities as per scale laid down hereunder:-

(i) For factories employing upto one hundred workers.-

(a) the services of a Factory Medical Practitioner on retainership basis, in his clinic to be notified by the occupier. He will carry out the pre employment and periodical medical examination as stipulated in rule 91 and render medical assistance during any emergency;

(b) to have a minimum of five persons trained in first-aid procedure amongst whom at least one shall always be available during the working period; and

(c) to have a fully equipped first aid box.

(ii) For factories employing hundred and one to two hundred and fifty workers-

(a) shall have an occupational health centre. It is suggested that it shall have a room with a floor area of fifteen square meters with floors and walls made of smooth and imperious surface and adequate illumination and ventilation. It is suggested to have the equipments given in the Schedule annexed to this rule;

(b) a part-time Factory Medical Practitioner shall be in overall charge of the centre who shall visit the factory atleast twice in a week and whose services shall be readily available during medical emergencies;

(c) to have one qualified and trained dresser-cum-compounder on duty throughout the working period; and

(d) to have a fully equipped first-aid box in all the departments.

(iii) For factories employing above two hundred and fifty workers-

(a) one full time Factory Medical Practitioner for factories employing up to five hundred workers and one more Medical Practitioner for every additional thousand workers or part thereof;

(b) shall have an Occupational Health Centre. It is suggested that it shall have two rooms with a floor area of fifteen sq. meters with floors and walls made of smooth and impervious surface and adequate illumination and ventilation. It is suggested to have the equipments given in the annexed Schedule XL;

(c) there shall be one nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period; and

(d) the Occupational Health Centre shall be suitably equipped to manage medical emergencies;

(2) The Factory Medical Practitioner required to be appointed under sub-rule (1) shall possess any recognised medical qualification as defined in the National Medical Commission Act, 2019 (Central Act 30 of 2019) and who is enrolled on a Indian Medical Register as defined in clause (e) and on a State Medical Register as defined in clause (l) of section 35, 36, 37 and 40 of the Act and possess a certificate of Training in Industrial Health of minimum three months duration recognised by the Government:

Provided that-

(i) a person possessing a Diploma in Industrial Health or equivalent shall not be required to possess the certificate of training as aforesaid;

(ii) the Chief Inspector-cum-Facilitator may subject to such conditions as he may specify, grant exemption from the requirement of this sub-rule, if in his opinion a suitable person possessing the necessary qualification is not available for appointment;

(iii) in case of a person who has been working as a Factory Medical Practitioner for a period of not less than three years on the date of commencement of this rule, the Chief Inspector-cum-Facilitator may, subject to the condition that the said person shall obtain the aforesaid certificate of training within a period of three years, relax the qualification.

(3) The syllabus of the course leading to the above certificate, and the organisations conducting the Course shall be approved by the Directorate-General of Factory Advice Service and Labour Institutes or the Government in accordance with the guidelines issued by the Directorate-General of Factory Advice Service and Labour Institutes (DGFASLI).

(4) Within one month of the appointment of a Factory Medical Practitioner, the occupier of the factory shall furnish to the Chief Inspector-cum-Facilitator the following particulars:-

- (i) name, address and enrollment number of the Factory Medical Practitioner;
- (ii) qualifications;
- (iii) experience, if any; and
- (iv) the sub-rule under which appointed.

**93. Ambulance Van.**-(1) In any factory carrying on "hazardous process" there shall be provided and maintained in good condition, a suitably constructed ambulance van equipped with item as per sub-rule (2) and manned by a full-time Driver-cum-Mechanic and a Helper trained in first-aid for the purpose of transportation of serious cases of accidents or sickness. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will normally be stationed at or near to the Occupational Health Centre:

Provided that a factory employing less than two hundred and fifty workers, may make arrangements for procuring such facility at short notice from a nearby hospital or other places to meet any emergency.

(2) It is suggested that the ambulance may have the following equipments:-

(i) General,-

(a) A wheeled stretcher with folding and adjusting devices with the head of the stretcher capable of being tilted upward;

(b) Fixed suction unit with equipment;

(c) Fixed oxygen supply with equipment;

(d) Pillow with case, Sheets, Blankets, Towels, Emesis bags, Bed pan, Urinal, Glass:

(ii) Safety equipment,-

(a) Flares with life of thirty minutes, Flood lights, Flash lights;

(b) Fire Extinguisher dry powder type, Insulated gauntlets;

(iii) Emergency Care Equipment,-

(a) Resuscitation,-

- Portable suction unit, portable oxygen units, Bag, Valve, Mask, and operated artificial ventilation unit;

- Airways, Mouthgags, Tracheotomy adapters, Short spine board, I.V. Fluids with administration unit;

- B.P. Manometer, Cup, Stethoscope;

(b) Immobilization,-

- Long and short padded boards, Wire ladder splints;

- Triangular bandage, Long and short spine boards;

(iv) Dressings,-

Gauze pads 4 x 4, Universal dressing 10 x 36;

Roll of aluminum foils, soft roller bandages 6 x 5" yards, Adhesive tape in 3 "roll, Safety pins;

Bandage Sheets; Burn sheet;

(v) Poisoning,-

Syrup of Ipecac, Activated charcoal pre-packeted in dozes, Snake bite kit, Drinking Water;

(vi) Emergency Medicines,-

As per requirement (under the advice of Medical Practitioner only).

**94. Decontamination facilities.**-In every factory, carrying out "hazardous process" the following provisions shall be made to meet emergency:-

(i) Fully equipped first-aid box;

(ii) readily accessible means of water for washing by workers as well as for drenching the clothing of workers who have been contaminated with hazardous and corrosive substance; and such means shall be as per the scale shown in the Table below :-

THE TABLE.

<i>Number of Persons employed at any time</i>	<i>Number of drenching showers</i>
(1)	(2)
(i) Up to 50 workers	2
(ii) Between 51 to 200 workers	2 + 1 for every additional 50 or part thereof.
(iii) Between 201 to 500 workers	5 +1 for every additional 100 or part thereof
(iv) 501 workers and above	8+1 for every additional 200 or part thereof

(iii) A sufficient number of eye wash bottles filled with distilled water of suitable liquid kept in boxes or cup-boards conveniently situated and clearly indicated by distinctive sign which shall be visible at all times.

**95. Qualifications of Supervisors.**-(1) All persons who are required to supervise the handling of hazardous substances shall possess the following qualifications and experience:-

(i) (a) A degree in Chemistry or Diploma in Chemical Engineering or Technology with five years experience; or

(b) A Master Degree in Chemistry or a Degree in Chemical Engineering or Technology with two years experience.

The experience stipulated above shall be in process operation and maintenance in the Chemical Industry.

(ii) Chief Inspector-cum-Facilitator may require the supervisor to undergo training in Health and Safety.

(2) The syllabus and duration of the above training and the organisations conducting the training shall be approved by the Director-General of Factory Advice Service and Labour Institutes or the Government in accordance with the guidelines issued by the Director-General of Factory Advice Service and Labour Institutes.

**96. Permissible levels of certain chemical substances in work environment.**-Without prejudice to the requirements in any other provisions in the Code or these rules, requirements specified in the annexed Schedule XLI shall apply to all factories.

**97. Procedure in appeals.**- An appeal presented under section 90 shall lie to the Chief Inspector-cum-Facilitator, or in cases where the order appealed against is an order passed by the Chief Inspector-cum-Facilitator, to the Government and shall be in the form of memorandum setting forth concisely the grounds of objection to the order and bearing court fee stamp in accordance with Article 11 of Schedule II to the Court-fees Act, 1870 (Central act XVIII of 1870), and shall be accompanied by a copy of the order appealed against certified correct and attested by the Inspector-cum-Facilitator concerned and duly stamped under the same Code.

**98. Rule prescribed under sub-section (1) of section 91:**

**(1) Person defined to hold positions of supervision or management:**

(a) The following categories of persons shall be deemed to hold positions of supervision or management;

(1) Directors;

(2) Managers;

(3) Assistant Managers;

(4) Engineers;

(5) Weaving Masters And Spinning Masters;

(6) Head Electricians;

(7) Labour Welfare Officers;

(8) Chief Chemist;

- (9) Chief Metallurgists;
- (10) Chief Production Engineers;
- (11) Work Superintendents ;
- (12) Chief Security Officers;
- (13) Fire Officers ;
- (14) Chief Accounts Officers;
- (15) Chief Personnel Officers;
- (16) Chief Public Relations Officer;
- (17) Foreman;
- (18) Charge man;
- (19) Chief Draftsman;
- (20) Head Store-Keepers
- (21) Safety Officers;
- (22) Human Resources Development Officers;
- (23) Quality Assurance Personnel;
- (24) Sales Personnel;
- (25) Material Issue Personnel; and
- (26) Systems Analysts or Operators in Electronic Data Processing Section.

(b) Any other person, who, in the opinion of the Chief Inspector-cum-Facilitator of Factories, holds position of supervision or management.

**(2) Person defined to hold confidential positions:**

(a) The following categories of persons shall be deemed to be employed in confidential positions

- (1) Stenographers;
- (2) Personal Assistants or Secretaries of Managers of Factories;
- (3) Time-Keepers;
- (4) Telephone Operators;
- (5) Personnel Officers;
- (6) Human Resources Development Personnel;
- (7) Security Officers;
- (8) Industrial Engineers;
- (9) Quality Assurance Personnel;
- (10) Sales Personnel;
- (11) Material Issue Personnel; and
- (12) Systems Analysis or Operators in Electronic Data Processing Section.

(b) Any other person, who, in the opinion of the Chief Inspector-cum-Facilitator of Factories, is employed in confidential position.

**(3) List to be maintained of persons holding confidential positions or supervision or management.-** A list showing the names and designations of all persons referred to in this rule shall be maintained in every factory.



**(4) Exemptions under sub-section (1) of Section 91.**- Adult workers engaged in factories in column (2) of Schedule XLII on the work specified in column (3) of the said Schedule shall be exempted from the provisions of the sections specified in the column (4), subject to the conditions, if any, specified in the column (5) of the said Schedule.

#### CHAPTER XIV.

##### Plantation.

**99. Housing accommodation for plantation workers.**-Every employer shall provide for every worker and his family residing in a plantation, housing accommodation as near as possible to the place of work.

**100. Standard and specification of housing accommodation.**-All housing accommodation for workers in a plantation shall conform to such standards and specifications as may be approved by the Government on the recommendation of the Plantation Advisory Committee constituted as per sub-section (3) of section 17 of the Code.

**101. Sites for housing accommodation .-** (i) The housing accommodation shall be provided on dry well drained land which, consistent with the requirement regarding distance from the plantation, has supplies of wholesome drinking water within a reasonable distance. In malarial tracts, the house shall be provided at a safe distance from the swamps and marshes and above the highest flood level.

(ii) Adequate electric lighting arrangements shall be provided by the employer in the houses provided for the workers and also in and around the area in which housing accommodation is provided.

(iii) The employer shall maintain in good condition the approach roads and parts to the area where houses are located as also the sewers and drains in that area.

(iv) The employer shall not deny the public free access to those parts of the plantation where the workers are housed.

(v) The employer shall cause the vicinity of all houses to be kept clear of refuse and excreta and the latrines and drains to be cleaned out daily and all refuse in or near them to be collected, removed and disposed of hygienically.

(vi) Adequate facilities of toilets with sewage, disposal shall be ensured by the employer.

**102. Constitution of Tamil Nadu State Plantation Advisory Committee under sub-section (3) of section 17.**-(1) The member of the Tamil Nadu State Plantation Advisory Committee will be as follows:-

##### A. OFFICIAL MEMBERS.-

(i) The Commissioner of Labour, Chennai-6 – Chairperson.

(ii) The Chief Engineer (Buildings), Public Works Department, Chennai-5.

(iii) The Principal Chief Conservator of Forests, Chennai.

(iv) The Chief Inspector-cum- facilitator- Member Secretary.

**B. EMPLOYERS REPRESENTATIVES,-** Seven representatives of employers to be nominated by the Government.

**C. EMPLOYEES REPRESENTATIVES,-** Seven representatives of Employees to be nominated by the Government.

(2) The Tamil Nadu State Plantation Advisory Committee shall meet to advise the Government on issues mentioned in section 92 and 93 of the Code, and rules made there under relating to Plantation workers.

(3) The tenure of non-official members referred in clause B will be three years.

(4) The Plantation Advisory Committee will be treated as First Class Committee for the travelling allowances applicable to non-official members.

(5) The Chief Inspector-cum-Facilitator for plantations, Chennai is the Counter Signing Authority for the travelling allowance bills for non-official members.

(6) Notwithstanding anything contained in this rule, a member of the Committee will continue to hold office during the pleasure of the State Government.

(7) If a member changes his address, he shall notify his new address to the Member Secretary of the Committee who shall there upon enter his new address in the official records.

(8) When a vacancy occurs or is likely to occur on completion of the term of the member in the membership of the Committee or resignation of a member or due to removal, the Member Secretary shall submit a report to the Government to nominate a person to fill the vacancy.

(9) (i) The Committee shall meet at such places and at such times as may be decided by the Chairperson and it shall meet at least once in six months.

(ii) Ordinarily two week notice shall be given to the members of the Committee of a proposed meeting. Notice together with a list of business proposed to be transacted approved by the Chairperson shall be sent to every member of the State Committee, through e-mail or registered post or speed post or by special messenger.

(iii) In case when the Chairperson calls an emergency meeting of the Committee for considering any matter which is urgent, a notice with such reasonable time shall be sent to every member through e-mail or by registered post or speed post or special messenger.

(iv) No business other than for which the meeting of the Committee has been convened shall be transacted at the meeting except with the permission of the Chairperson.

(10) No business shall be transacted at any meeting of the Committee unless at least seven members are present in that meeting which shall include at least one non-official member:

Provided that if at a meeting, less than seven members are present, the Chairperson may adjourn the meeting to another date informing the members present and giving notice to the other members that he proposes to dispose of the business at the adjourned meeting whether there is prescribed quorum or not, and it shall there upon be lawful for him to dispose of the business at the adjourned meeting irrespective of the number of members attending.

(11) Every matter which the Committee is required to take into consideration shall be considered at a meeting of the Committee, or if the Chairperson so directs, by sending the necessary papers to every member for opinion, and the matter shall be disposed of in accordance with that decision of the majority:

Provided that where there is no opinion of majority on a matter and the members of the Committee are equally divided, the Chairperson shall have a second or a casting vote.

(12) (i) The minutes of each meeting showing inter-alia the names of the member present there, shall be forwarded to each member of the Committee and to the State Government as soon as possible and in any case not later than four weeks after the meeting.

(ii) The minutes of each meeting of the Committee shall be signed by the Chairperson.

(iii) The minutes of the meeting shall be confirmed, with such modification if any, at the next meeting.

(iv) The minutes of a meeting of the Committee shall be maintained.

(13) The Member Secretary shall, with the approval of the Chairperson, issue notice to convene meetings of the Committee and keep record of minutes and shall take necessary steps for carrying out the decision of the Committee.

**103. Resignation.**-(1) A member of the Tamil Nadu State Plantation Advisory Committee, not being an ex-officio member, may resign by a letter in writing addressed to the Government.

(2) The seat of such a member shall fall vacant from the date on which his resignation is accepted or on the expiry of thirty days from the date of receipt of intimation of resignation, whichever is earlier.

(3) The power to accept the resignation of a member shall vest with the Government.

**104. Cessation of membership.**-(1) If any member of the State Plantation Advisory Committee, not being an ex-officio member, fails to attend three consecutive meetings of the State Plantation Advisory Committee, without obtaining the leave sanctioned by the Chairperson of the State Plantation Advisory Committee for such absence, he shall cease to be a member of State Plantation Advisory Committee:

Provided that the Chairperson may, if it is satisfied that such member was prevented by sufficient cause from attending three consecutive meetings, direct that such cessation shall not take place and on such direction being made, such member shall continue to be a member of State advisory Committee.

(2) A member nominated shall cease to be a member of the Committee if he ceases to represent the category of interest from which he was so nominated.

**105. Disqualification for membership.**-A person shall be disqualified for being a member of the State Plantation Advisory Committee,-

(i) if he is of unsound mind and stands so declared by a competent authority;

(ii) if he is an un-discharged insolvent; or

(iii) if he has been convicted for an offence, having a penalty of imprisonment of three months or more;

**106. Removal from membership.**—The Government may remove any member of the State Plantation Advisory Committee, if in its opinion such member has ceased to represent the interest which he purports to represent on such State Plantation Advisory Committee.

**107. Construction of houses in accordance with scheme and submission of annual return progress report in relation thereto.**—All houses shall be built in accordance with the scheme approved in writing by the Chief Inspector-cum-Facilitator of Plantations. Every employer shall submit annual return prescribed, to Inspector-cum-Facilitator of Plantations having jurisdiction over the area and also to the Chief Inspector-cum-Facilitator of Plantations.

**108. Maintenance of houses.**—(1) The employer shall, at his own expense, execute such repairs to the houses as may be required from time to time and maintain the houses in fit and safe condition for occupation.

(2) A worker occupying a house may, and Inspector-cum-Facilitator appointed under this Code shall bring to the notice of the employer any defects in the condition of a house which make it dangerous to the health and safety of the worker. Where an Inspector-cum-Facilitator so brings any such defects to notice, it shall be the duty of the employer to rectify the same at the earliest.

(3) The employer shall get all the houses lime-washed at least once every year and all the doors, windows and other wooden structure varnished or painted once in three years. A record of dates on which lime-washing or painting was carried out shall be maintained in **FORM XXVII**.

(4) If any employer fails to comply the requirements of sub-rules (1), (2) or (3), the Chief Inspector- cum-facilitator may cause repairs to be done and realise the cost thereof from the employer as arrears of land revenue.

**109. Accommodation to be rent free.**—No rent shall be charged by an employer for the housing accommodation provided to workers and their families residing in his plantation.

**110. Occupation of Houses.**—(1) Houses shall be allotted on the basis of one house for a worker and his family:

Provided that if there are two or more workers in a family, only one house shall be allotted in respect of any such family in the name of any worker in the family:

Provided further that in the case of termination of services of a worker, in whose name a house is allotted under the preceding proviso, the said house or any other standard house shall be re allotted in the name of any other member of his family, who is a worker:

Provided also that it shall be open to the employer to allot houses to workers not having families at the rate of one house for not more than four such workers.

(2) The occupant of a house shall not make any unauthorised additions to or alterations in the house.

(3) The occupant shall not exchange the house with the occupant of another house except with the written permission of the employer.

(4) The occupant shall not let the house or any portion thereof to any person.

(5) All workers and members of their families occupying the houses shall use the latrines provided and shall not pollute the soil and shall keep the houses and the precincts thereof clean and tidy and shall not waste drinking water.

(6) No cattle or goats shall be kept in the living rooms or verandahs and no windows or air spaces shall be blocked up.

(7) The employer shall bring to the notice of each worker to whom housing accommodation has been provided, the conditions governing the occupation of such accommodation, in writing, in a language which the latter can understand.

**111. Occupation of accommodation after termination of employment.**—(1) When a worker dies in the service of the employer, or retires or goes on transfer, or resigns, or goes on leave or when his services are terminated he or his family may retain the house up to the period as detailed below:—

(i) in the case of death, a period not exceeding three months, and in the case of transfer or termination of service, a period not exceeding two months ;

(ii) in the case of retirement or resignation, a period not exceeding one month ;

(iii) in the case of leave, for the period of leave ; and

(iv) in the case where discharge or dismissal of a worker results in an industrial dispute, for so long as the same is not finally disposed of.

(2) If the employer makes an application to the Industrial Tribunal having jurisdiction over the area and if the Industrial Tribunal is satisfied that a worker or any member of his family refuses to vacate the house allotted to such workers, after the

expiry of the period specified in sub-rule (1), the Industrial Tribunal may, notwithstanding anything contained in any other law for the time being in force, by notice served –

(a) by post, or any form of electronic mode;

(b) by affixing a copy of it on the outer door or some other conspicuous part of such house, or require such worker or a member of his family or any other person who may be in occupation of the whole or any part of the house to vacate in within one month of the date of service of such notice.

(3) In the event of the failure of the worker or a member of the family or any other person who is in occupation of the house to comply with the notice under sub-rule (2) the Industrial Tribunal may, by order, evict such worker, member of the family or other person and take possession of the house and may, for that purpose, use such force as may be necessary:

Provided that before taking such possession, a copy of the order of eviction shall be served on the worker or a member of the family or other any other person in occupation of the said house.

**112. Facilities for harvesting standing crops on termination of employment.**-In the case of termination of his employment, a worker shall where possible, be given facilities to harvest the standing crops in his garden plot.

**113. Drinking water.**-An adequate supply of wholesome drinking water shall be made available in every plantation at worksites or at a place or places to be approved by the Inspector-cum-Facilitator at all times, during working hours.

**114. Source of supply.**-The water provided for drinking shall be supplied,-

(a) from the taps connected with a public water supply system; or

(b) from any other source approved by the Chief Inspector-cum-Facilitator of Plantations.

**115. Storage of water.**-If drinking water is not supplied from taps connected with a public water supply system, it shall be kept in suitable vessels and renewed atleast daily. All practicable steps shall be taken to preserve the water and vessels from contamination and keep the vessels scrupulously clean.

**116. Cleanliness of well or reservoir.**-(1) Drinking water shall not be supplied from any open well or reservoir unless it is so constructed, situated protected and maintained as to be free from the possibility of pollution by chemical or bacterial and extraneous impurities.

(2) Where drinking water is supplied from such well or reservoir, the water in it shall be sterilized periodically as required by the Inspector-cum-Facilitator by written order and the date on which sterilizing is carried out shall be recorded:

Provided that this requirement shall not apply to any such well or reservoir if the water therein is filtered and treated before it is supplied for consumption.

**117. Report from the Medical practitioner.**- The Inspector-cum-Facilitator may, by an order in writing, direct the employer to obtain at such time or at such intervals, (i.e., once in six months) as he may direct, a report either from the qualified medical practitioner or from the Tamil Nadu Water supply and Drainage Board Testing Laboratories or any other laboratory approved by Government for this purpose, as to the fitness for human consumption of the water supplied to workers, and in every case to submit to the Inspector-cum-Facilitator a copy of such report as soon as it is received.

**118. Toilet facilities.**-(1) Toilet facilities shall be provided in every plantation on the scale of one toilet for every fifty hectares of the area under cultivation or part thereof in addition to the toilet provided to the houses of workers:

Provided that there shall be atleast one toilet for all genders.

(2) The toilet shall be conveniently situated and shall have exclusive access for all genders.

**119. Toilets to conform to public health requirements.**- The toilet should conform to public health requirements and toilets other than those connected with an efficient water-borne sewage system, shall comply with the requirements of the Public Health authorities.

(i) **Privacy of Toilets:**- Every toilet shall be under cover and so partitioned off as to secure privacy and shall have a proper door and fastenings.

(ii) **Sign Boards to be displayed:**-Where workers of both sexes are employed, there shall be displayed outside each toilet each toilet or toilet block, a notice in the language understood by the majority of workers "For men only" or "For Women only", as the case may be. The notice shall also bear the figure of a man or of a woman as the case may be.

(iii) **Water taps in toilet:**-

a. Where piped water supply is available, a sufficient number of water taps, conveniently accessible, shall be provided in or near such toilet accommodation.

b. If piped water-supply is not available, sufficient quantity of water shall be kept stored in suitable receptacles near the toilet.

**120. Urinal Facilities.**-Urinal facility shall be provided on the scale of one urinal for every twenty hectares of the area under cultivation or part thereof. The urinals shall be conveniently situated for all genders.

**121. Urinals to conform to public health requirements.**-Urinals shall conform to public health requirements. Urinals other than those connected with an efficient water-borne sewage system shall comply with the requirements of the Public Health authorities.

**122. Construction and maintenance of drains.**-All drains carrying waste of sullage water shall be constructed in masonry or other impermeable materials and shall be regularly flushed and the effluent disposed of by connecting such drains with a suitable drainage line:

Provided that, where there is no such drainage line, the effluent shall be deodorized and rendered innocuous and then disposed of in a suitable manner to the satisfaction of the Health Officer.

**123. Creches.**-(1) In every plantation wherein fifty or more workers (including workers employed by any contractor) are employed or were employed on any day of the preceding twelve months, the employer shall provide and maintain a creche or creches for the use of their children who are below the age of six years according to the standards laid down in these rules.

(2) Every creche shall be conveniently accessible to the mothers of the children accommodated therein.

(3) There shall be not less than 1.5 square metres of the floor area for each child to be accommodated in a creche.

(4) The building in which the creche is situated shall be of sound construction with a good plinth.

(5) The plan of the creche building shall be in accordance with the standard plan or plans laid down by the Chief Inspector-cum-Facilitator:

Provided that where no standard plan has been laid down or where it is proposed to deviate from a standard plan, the Chief Inspector-cum-Facilitator's approval shall be obtained.

(6) The creche shall be furnished with suitable furniture and a cradle for each child below the age of two and provided with playing materials such as sliding chutes, see-saws, dummy horses, toys etc.

(7) A suitable fenced and shady open air playground shall be provided for the older children.

(8) The employer shall appoint (i) a woman trained in the care of children and infants as creche-in-charge to look-after children during the absence of their mothers, and (ii) other staff on scale approved by the Government.

**124. Wash room.**-(1) There shall be in or adjoining creche a suitable wash room for the washing of the children and their clothes.

(2) There shall be provided a toilet for the use of the children in the creche.

**125. Supply of milk and refreshment.**-At least 300 ml of clean pure milk if possible, otherwise, powdered milk approved by the Medical Officer shall be made available for each child on every day it is accommodated in the creche and the mother of such child shall be allowed in the course of her daily work, two intervals of sufficient time to visit the creche and feed the child. For children above two years of age, there shall be provided in addition an adequate supply of wholesome refreshment.

**126. Supply of clothes, soaps and oils.**-(1) The creche staff shall be provided with suitable clean clothes for use while on duty in the creche.

(2) (a) Two sets of clothing once a year shall be made available for each child while it is in the creche. The clothing for boys will consist of a shirt and a half-trouser and for girls a blouse and a skirt or a frock or gown. Measurement should be taken and the clothing must be stitched accordingly to suit every child in the creche. The cost of the cloth and stitching thereof including washing charges for washing the clothes once in a week shall be borne by the employer.

(b) One cake of soap weighing 100 gms. and 100 ml. oil shall be made available for the use of each child per month while it is in the creche:

Provided that,-

(i) an establishment may avail common creche facility of the Central, State Government, Municipality, Town Panchayath, Village Panchayath or private entity or provided by Non-Governmental Organisation or by any other organisation; or

(ii) a group of establishments may agree to pool their resources for establishing a common creche.

**127. Educational facilities for worker's children.**-(1) Every employer shall, if the number of workers' children between the ages of 6 and 12, in his plantation exceeds 25, provide and maintain a primary school or schools for imparting primary education to the children:

Provided that an employer may not provide and maintain a primary school if there is one under the direct management of the Government or of any local body for imparting free education to the children up to the primary or higher

standard, with enough seats to admit the children between the ages of six and twelve of the workers in his plantation and within a distance of 1.6 kilometres from the place where workers reside in his plantation; or if under any other law, he is required to pay a cess or tax for primary education:

Provided further that subject to the provisions of sub-rule (2), a group of employers may jointly provide and maintain a primary school and share its expenses.

(2) Every school to be provided and maintained under sub-rule (1) shall be conveniently situated and within a distance of 1.6 kilometres from the workers' quarters.

(3) The school building shall be constructed in accordance with the standard plan or plans which may be laid down by the Government:

Provided that where there is no standard plan or where it is proposed to deviate from a standard plan, the Government's approval of the plan of the school building shall be obtained

(4) Where adequate space is available, an open air playground with suitable accessories shall also be provided for the children attending the school.

(5) The employer or employers, as the case may be, shall provide for every primary school maintained under sub-rule (1) such educational and other equipment as may be considered necessary by the Government.

(6) (i) The employer or employers concerned shall appoint one teacher for every forty children attending the primary school.

(ii) The teacher shall possess the qualifications prescribed by the Government for teachers in Government primary schools:

Provided that in the case of any person who is working as a school teacher in a plantation at the commencement of these rules the Government may, subject to such conditions as it may specify, relax any of the qualifications.

(iii) The curriculum, duration, standard and syllabus of the course of instruction to be imparted in the primary school shall be such as may be approved by the Government.

(iv) No fees shall be charged from the worker's children attending the primary school.

**128. Medical facilities under sub-section (1) (d) of section 92.-** The employer shall provide health facilities as provided in rules 129, 130, 131, 132, 133, 134, 135 and 136 to every worker employed in the plantation (including his family) or provide coverage under the Employees' State Insurance Scheme of Social Security Code.

**129. Types of Hospitals.-**There shall be two types of hospitals in plantations namely, garden hospitals and group hospitals:-

(1) Garden hospitals will deal with out-patients, in-patience not requiring any elaborate diagnosis and treatment, infectious cases midwifery, simple pre-natal and postnatal care, care of infants and children and periodical inspection of workers.

(2) Group hospitals shall be capable of dealing efficiently, with all types of cases normally encountered but will not be used for routine treatment. Admission to group hospitals except in emergency shall be only on the recommendation of a garden hospital doctor.

**130. Garden hospitals.-**(1) Every employer of plantations specified in column(1) of the Table below shall provide the medical facilities specified in the corresponding entries in column (2) thereof:-

THE TABLE.

<i>Serial number</i>	<i>Class of plantations</i>	<i>Nature of medical facilities to be provided</i>
	<i>(1)</i>	<i>(2)</i>
1	Plantations which employ 1,000 or more workers	Own garden hospital.
2	Plantations employing more than 200 workers but less than 1,000 workers	Combined garden hospital and own dispensary
3	Plantations employing 200 or less workers.	Dispensary either individually or in groups with necessary equipment and arrangements for visiting doctors (The employers shall ensure that the doctor visits the dispensary at least thrice a week)

(2) Each garden hospital shall be under a qualified Medical Practitioner as assisted by at least one trained nurse, one trained maternity assistant, a qualified pharmacist, one man and one woman Nursing Orderly, one scavenger and one sweeper. The services of the staff shall be readily available during all hours:

Provided that in the case of doctors, nurses, maternity assistants and pharmacists employed in plantation at the commencement of these rules, the Chief Inspector-cum-Facilitators of plantations may in consultation with the Director of Medical Services grant exemption from possessing the qualifications prescribed for them.

(3) Medical and auxiliary personnel shall be appointed according to the following scale:-

- (i) one qualified medical practitioner for every 1750 workers or part thereof.
- (ii) nurse/number of workers not less than 1/1750.
- (iii) maternity assistants/number of workers not less than 1/1750.
- (iv) pharmacist / number of workers not less than 1/1750.
- (v) men nursing orderly /number of workers not less than 1/1750.
- (vi) women nursing orderly /number of workers not less than 1/1750
- (vii) scavenger /number of workers not less than 1/1750.
- (viii) sweeper /number of workers not less than 1/1750:

Provided that where the number of workers does not exceed 2000, no additional practitioner need to be appointed:

Provided further that where the number of women workers employed in any plantation is not less than 750, a woman medical practitioner also shall be appointed.

(4) (a) A minimum of fifteen beds shall be provided in every garden hospital per one thousand workers served and each bed shall be allowed at least six square metres of floor space.

(b) Every hospital shall be of sound permanent construction with impermeable washable walls to a height of at least 1.5 metres on the inside with proper water supply and efficient sanitary arrangements.

(c) Every hospital shall have pure piped water supply and the wards, consulting room, operation theatre and dispensary shall each have a water point over a suitable glazed sink.

(d) The following departments shall be provided with:-

- (i) general ward for male;
- (ii) general ward for female;
- (iii) maternity with separate labour room;
- (iv) family planning centre;
- (v) infectious ward with separate sanitary arrangements;
- (vi) out-patient department (with sufficient waiting space for patients to wait under cover) preferably situated in a separate block from general wards;
- (vii) consulting room so arranged that patients can be examined in privacy;
- (viii) minor operation in dressing room;
- (ix) dispensary and drug store;
- (x) general store; and
- (xi) kitchen for cooking.

(e) In every hospital, transport facilities shall be provided for carrying patients to and from group hospitals.

**131. Group hospitals.**-(1) Group hospitals shall be established.

(2) Plans for the establishment of group hospitals containing details as regards their location and size, areas of plantations served, the number of workers employed thereon, etc., shall be approved by the Government.

(3) Every group hospital shall have a minimum of one hundred beds and there shall be at least three beds per seven hundred workers, every bed having 7.5 square metres of floor space:

Provided that the Government may fix a lesser number of beds to be provided in a group hospital and exempt a group of plantation from providing a group hospital, if it is satisfied that adequate alternative arrangements exist for treatment of patients intended to be treated at a group hospital:

Provided further that no exemption shall be allowed without the previous approval of the Central Government.

(4) The hospital shall be built according to such specifications as may be approved by the Government.

(5) There shall be provision for piped supply of pure water, electricity, modern methods of sanitation and water flushed closets. Each ward, labour room, surgical dressing room, consulting room and dispensary, shall have a water point over a suitable glazed sink:

Provided that with the approval of the Government suitable alternative arrangements may be made in regard to supply of pure water, electricity and other modern methods of sanitation.

(6) Each hospital shall have provision for,-

- (i) Operating theatre block;
- (ii) X-ray block;
- (iii) Physical treatment block;
- (iv) Dental treatment block;
- (v) Labour room;
- (vi) T.B. and V.D.clinics;
- (vii) Consulting and examination room;
- (viii) Clinical Laboratory fully equipped;
- (ix) Dispensary;
- (x) Administrative and office block;
- (xi) Kitchen and Laundry blocks;
- (xii) Lavatories and bath-rooms;
- (xiii) Stores; and
- (xiv) Mortuary and post-mortem room.

Out-patient block which should preferably be at some little distance from the wards. Separate wards shall be provided for male, female, maternity cases and small isolated wards for infectious diseases:

Provided that X-ray and physical Therapy blocks may not be provided if satisfactory arrangements are made by employers to provide these facilities with some hospital approved by the chief Inspector-cum-Facilitator.

(7) (a) Every group hospital shall have such medical and other staff as may be specified by the Government. All doctors in a group hospital shall be qualified medical practitioners.

(b) There shall be fifteen nurses for one hundred bedded hospital of whom one shall be senior trained, five junior trained and nine assistant nurses. Such classification may be made according to their qualifications and experience.

(8) A properly equipped ambulance shall be maintained every group hospital.

**132. Equipments and drugs.**-(1) Every dispensary/garden hospital and group hospital shall maintain such equipments and drugs, etc., as may be specified by the Government.

(2) The District Medical Officer concerned or (an Assistant surgeon nominated by District Medical Officer or a Medical Officer appointed by the Labour Department) shall visit the dispensaries, garden hospitals and group hospitals at least once a year to see whether they are sufficiently equipped and stocked with drugs, and send a report to the management and to the chief Inspector-cum-Facilitators of plantations.

**133. Medical records.**-The medical officer in charge of each dispensary, garden or group hospital shall maintain the following records namely:-

- (i) Admission and Discharge register;
- (ii) Case sheets;



- (iii) Referrals;
- (iv) Infectious and communicable diseases register;
- (v) Immunization particulars;
- (vi) Family welfare services;
- (vii) Medico Legal records;
- (viii) Maternal death record;
- (ix) Infant death record;
- (x) one to five years child death record; and
- (xi) Any other record as may be required by the Government from time to time.

**134. Standard of medical facilities.**-(a) Out-patients' treatment,-

it shall include,-

- (i) detention for observation and treatment;
- (ii) preventive treatment such as vaccination and inoculation;
- (iii) free provision of all drugs including those needed for injections and dressings and appliances that may be considered necessary;
- (iv) ante-natal and post-natal advice; and
- (v) provision of certificates, free of cost in respect of maternity and sickness benefit claims.

(b) In patients' Treatment,-it shall include,-

(i) The hospital treatment shall include maintenance, food and medicines including treatment at confinement as may be available at the hospital and the said facilities shall subject to the provisions of clause(ii) be free of cost to workers and shall be paid for by the plantations.

(ii) notwithstanding anything contained in clause(i), workers and their families admitted as in-patients in the hospital shall be entitled to the supply of free diet, only where any award, agreement of contract of service provides for the supply of free diet or where they were already enjoying the benefit of free diet under any custom usage and past practice and such supply shall be in accordance with the terms of the said award, agreement, contract, custom, usage and last practice, but where there is no such award, agreement, contract, custom, usage and past practice the diet charges shall be paid for by the workers at such rate as the Government may, from time to time, fix.

(iii) workers and members of their families undergoing treatment as in-patients in the Garden or Group hospitals in plantations shall be required during their period of stay in the hospitals to wear only the uniforms supplied by the Garden or Group hospitals free of cost.

**135. Failure to provide and maintain medical facilities as required in these rules.**-(1) If any employer does not provide and maintain medical facilities as required in these rules to the satisfaction of the Chief Inspector-cum-Facilitator, the Government upon request by the Chief Inspector-cum-Facilitator will cause to be provided and maintained these facilities in the nearest garden hospital or dispensary or in a Primary Health Centre or other similar hospital or dispensary.

(2) The defaulting employer shall be liable to pay the cost of such medical facilities including charges, if any, in respect of –

- (a) a medical officer's visit to the plantations for the purpose of attendance on any sick worker or workers and his or their families respectively;
- (b) The maintenance of sick workers or a member of his family in a hospital/dispensary for each day's maintenance; and
- (c) Transport to and fro provided to the sick worker or a member of his family.

**136. Recovery of sum due under rule 135.**-When any sum of money is due from any employer under rule 135, the Chief Inspector-cum-Facilitator shall give him notice in writing requiring the payment of the amount to the collector, who may recover the same as an arrear of land revenue

**137. Recreational Facilities.**-Every employer shall provide and maintain,-

- (i) a recreation centre or centres for workers with provision for indoor games suitable for adult workers and child;
- and

(ii) where adequate flat open space is available within a reasonable distance, a playground or playgrounds for adult workers and child with necessary sports equipment for outdoor games:

Provided that subject to the provisions of rule 138, a group of employers may, with the approval of the Chief Inspector-cum-Facilitators, provide and maintain joint recreation centres and playgrounds and share their expenses.

**138.** Every recreation centre to be provided and maintained under rule 137 shall be conveniently situated as near as possible to the worker's quarters.

**139. Restriction on employment of women and adolescent worker in handling insecticides, chemicals and toxic substances.**-No pregnant women or adolescent worker shall be allowed to handle any hazardous substance.

**140. Appointment and qualification of Supervisors.**-The use, handling, storage and transportation of insecticides, chemicals and toxic substances shall be supervised by a competent person who should possess the following qualifications:-

(i) he shall be a graduate in Agriculture or chemistry or he shall possess a Certificate Course on handling of chemicals and toxic substances conducted by the United Planters' Association of Southern India (UPASI);

(ii) he should be given training from a designated Training Institute; and

(iii) he should also possess valid certificate from St. Johns Ambulance Institute for giving first aid treatment to workers.

**141. Training.**-(1) The persons involved in handling insecticides, chemicals and toxic substances shall be arranged for suitable training in observing safety precautions and handling safety equipment provided to them in the institutes notified by the Government from time to time.

(2) All the workers who apply, handle, transport or come into contact with agro-chemicals or other chemical substances must be trained in at least in the following subjects:-

- (i) General occupational health;
- (ii) Formulations, names, and the bin code action of the substances used in the case of pesticides;
- (iii) Correct use of personal protective clothing and equipment;
- (iv) Preventive measures and measures for reducing damage to health and the environment, caused by the chemical substances, equipment, techniques, signage, medical examination etc.;
- (v) Emergency procedures, first aid and medical attention for cases involving poisoning or undue contact with chemical substances;
- (vi) Techniques for handling chemical substances and for the correct application of agro-chemicals;
- (vii) Secure handling and transportation of agro-chemicals for drivers; and
- (viii) Other necessary training suitable for the plantation.

**142. Medical examination to the workers.**-(1) Without prejudices to clause (c) of section 6 of the Code and rule 6, every worker who is engaged in the work of handling, dealing, or spraying or mixing insecticides, chemical and toxic substances shall be medically examined initially at the time of employment and thereafter once in year in Group Hospital or Garden or any other hospitals notified in this regard.

(2) The medical examination and tests shall be in **FORM XXVIII**.

(3) Any person showing symptoms of poisoning shall be immediately examined and given proper treatment.

(4) Every employer shall maintain health record of every worker such as annual medical examination or any other examination when required, shall be kept in plantation and every such worker shall have access to such record.

**143. Washing, bathing, cloak room, protective clothing and equipment facilities.**-(1) Every employer shall provide washing bathing and cloak room facilities to the workmen, who are employed in handling insecticides, chemicals and toxic substances.

(2) (a) Persons handling insecticides, chemicals and toxic substances during its operation, distribution, mixing, spraying shall be adequately protected with appropriate clothing.

(b) The protective clothing shall be made of materials which prevent or resist the penetration of any form of insecticide, chemical and toxic formulations. The materials shall also be washable so as to remove the toxic elements after each use.

(c) A complete suit of protective clothing shall consist of the following dresses, namely:-

- (i) Protective outer garment with hat;
- (ii) Rubber gloves or such other protective gloves extending of way upto the fore arm made of materials impermeable to liquids;
- (iii) Dust proof goggles;
- (iv) Boots;
- (v) Reusable cloth masks.

**144. Precautionary notices.**-Every employer in the plantations shall display the following precautionary notices at or near the place where the insecticides chemicals and toxic substances are handled:-

- (i) Use protective clothing's like overalls, gloves, goggles, rubber gum-boots and wide-rimmed hats;
- (ii) Do not wear clothes contaminated with insecticides and pesticides;
- (iii) Clean the protective clothing by washing with soap and water;
- (iv) Do not allow children, sick persons and pregnant women and nursing mothers to handle insecticides and pesticides;
- (v) Do not eat, drink, smoke or chew while handling insecticides and pesticides;
- (vi) Never blow out clogged nozzles with mouth;
- (vii) Do not use leaking sprayers. Avoid contamination of the skin, mouth and eyes;
- (viii) Do not inhale the insecticides unattended in the fields;
- (ix) Never spray insecticides and pesticides against the wind;
- (x) Do not leave insecticides and pesticides unattended in the fields;
- (xi) Do not allow humans and livestock to enter the insecticides and pesticides sprayed fields for a period of time, suggested by the manufacturers;
- (xii) Do not wash insecticides and pesticides containers near a well or running stream;
- (xiii) Keep clean water, soaps and towels ready for use;
- (xiv) Wash hands and exposed skin thoroughly with soap and water before eating, drinking, smoking or, chewing and after work;
- (xv) Keep the insecticides and pesticides locked in store room and out of reach of children and other unauthorized persons;
- (xvi) Do not enter sprayed field. Follow the re-entry periods for all insecticides and pesticides including herbicides, suggested by the manufactures;
- (xvii) Keep insecticides and pesticides in their original, labelled containers;
- (xviii) Do not decant insecticides and pesticides into unlabelled containers except for immediate use;
- (xix) Dispose the containers safely after thoroughly emptying and washing. They may be buried in a place away from water source;
- (xx) Never reuse the container for any other purposes if it is impossible to remove the traces and pesticides from the containers.

145. Transport and storage of insecticides within the plantation.-(1) No insecticides, chemicals and toxic substances shall be transported or stored in such a way as to come into direct contact with food stuffs or animal feeds or drinking water.

(2) If any insecticides, chemicals and toxic substances are found to be leaked out in transport or storage, it shall be the responsibility of the employer to take such measures urgently to prevent poisoning and pollution of soil or water, if any.

(3) The packages containing insecticides, chemicals and toxic substances shall be stored in separate rooms or premises away from the rooms or premises used for storing such articles or shall be kept in separate almirahs under lock and key depending upon the quantity and nature of the insecticides.

(4) The rooms or premises meant for storing insecticides, chemical and toxic substances shall be well built, dry, well lit and ventilated with sufficient dimension.

**146. List of insecticides, chemicals and toxic substances.**-Every employer shall display in plantations the list of insecticides, chemicals and toxic substances as notified by the Central Government, from time to time under the Insecticides Act, 1968 (Central Act 46 of 1968).

#### CHAPTER XV.

##### Offences and Penalties.

**147. Fee to prefer appeal under sub-section (3) of section 111.**- An appeal shall be accompanied by a fee at the rate of two percent of the penalty imposed under sub-section (2) of section 111 of the Code, which shall be paid through the online portal in **Form XXIX**.

**148. Manner of compounding of offences by the authorized officer specified under sub-section (1) of section 114.**-(1) The officer shall be notified by the Government for the purposes of compounding of offences under sub-section (1) of section 114 of the Code.

(2) Any person seeking composition of penalty or offence as specified in sub-rule (1) shall file an application in **FORM XXX** to the concerned officer mentioned in sub-rule (1).

(3) The concerned officer mentioned in sub-rule (1) shall take decision and issue notice within fifteen days from receipt of application under sub-rule (2).

(4) The person applied as per sub-rule (2) shall deposit the entire compounding amount by electronic transfer or otherwise, within fifteen days of the receipt of the notice.

(5) The Compounding Officer shall issue a composition certificate within seven days of receipt of the composition amount, to such person from whom such amount has been received in satisfaction of the composition notice.

(6) The concerned officer mentioned in sub-rule (1) shall duly send the copy of composition certificate to the officer who imposed penalty or the court where prosecution is instituted.

(7) If a person so noticed fails to deposit the composition amount within one month, the prosecution shall be proceeded with before the competent Court.

(8) No prosecution shall be instituted without giving an opportunity to the employer to comply with such provisions subject to proviso of sub-section (1) of section 110 and compounding as under section 114 of the Code.

(9) The amount of composition received during the month shall be credited to the fund mentioned in sub-section (1) of section 115 for the unorganized workers, before the 7th day of the succeeding month.

(10) The amount of composition received and credited shall be recorded in a register to be maintained in **FORM XXXI**.

#### CHAPTER XVI.

##### Social Security Fund.

**149.** (1) The amount received from composition of the offence as specified in sub-section (4) of section 114 and the amount of the penalty as specified in sub-section (6) of section 111 of the Code, shall be credited to the Tamil Nadu Unorganised workers Social Security Fund established under sub-section (5) of Social Security Code 2020 (Central Act 36 of 2020).

(2) The fund shall be expended for the Welfare of the Unorganised Workers, under the Social Security Schemes framed under section 109 of the Social Security Code 2020 and the rules made thereunder.

## CHAPTER XVII.

**Special Rules.**

**150. Appeal under sub-section (6) of section 119.-** (1) Any person aggrieved by an order passed by the authority notified by the Government under section 119 (1) shall prefer an appeal before the Director of Industrial Safety and Health in case of Factories, contract workers engaged in factories and Building and other Construction Works, or Commissioner of Labour for Beedi and Cigar Establishments, contract workers engaged in establishments other than factories and Building and other Construction Works.

(2) The application for the appeal shall be accompanied with the rejection order of the Licensing Authority and fee receipt of Rs 1000/- to be deposited in the official account of the appellate authority.

**151. Safety of machinery and plant.-**(1) Without prejudice to the matters listed in the Second Schedule, no machinery, plant or equipment shall be constructed, situated, operated or maintained in any factory in such a manner as to cause risk of bodily injury.

(2) Wherever practicable and considered necessary by the Inspector-cum-Facilitator, service platforms and gangways shall be provided for overhead shafting and when required by him these shall be securely fenced with guards, rails and toe boards.

(3) Safe access shall be provided to all bearing clutches, belt shifting levers and all such other appliances which are required to be handled or operated while the machinery is at work.

(4) All ladders used in replacing belts or in attending similar overhead machinery shall be specially made for that work and provided with books or an effective non-skid device.

(5) No transmission machinery in motion shall be cleaned with cotton waste, rags or similar materials held in hand.

(6) All belts shall be regularly examined to ensure that the joints are safe and the belts are kept in proper tension.

(7) Each water gauge glass of a boiler shall be fitted with an efficient guard.

(8) All condenser pipes of steam engines and exhaust pipes of oil engines; shall be adequately guarded.

**152. Methods of work.-**Notwithstanding anything contained in any other rule, no process or work shall be carried on in any factory in such a manner as to cause risk of bodily Injury.

**153. Fragile roofs.-**In any factory no person shall be required or allowed to stand on or pass over or walk on or near any roof or ceiling covered with fragile material through which he is liable to fall, in case it breaks or gives way, a distance of more than three meters, unless,

(i) suitable and sufficient ladders, duck ladders or crawling boards which shall be securely supported, are provided and used; and

(ii) a permit to work on the fragile roof is issued to him each time he is required to work thereon, by a responsible person of the factory concerned, such as Supervisor, Foreman, Engineer or Occupier.

**154. Ovens and driers.-**(1) This rule shall apply to ovens and driers, except those used in laboratories or kitchens of any establishment and those which have a capacity below 325 liters.

(2) For the purpose of this rule, oven or drier means any enclosed structure, receptacle, compartment or box which is used for baking, drying or otherwise processing of any article or substance at a temperature higher than the ambient temperature of the air in the room or space in which the oven or drier is situated and in which a flammable or explosive mixture of air and a flammable substance is likely to be evolved within the enclosed structure, receptacle, compartment or box or part thereof on account of the article or substance which is baked, dried or otherwise processed within it.

(3) Electrical power supplied to every oven or drier shall be by means of separate circuit provided with an isolation switch.

(4) (i) Every oven or drier shall be properly designed on sound engineering practice and be of good construction, sound materials and adequate strength, free from any patent defects and safe if properly used.

(ii) No oven or drier shall be taken into use in a factory for the first time unless a competent person has thoroughly examined all its parts and carried out the tests as are required to establish that the necessary safe systems and controls provided for safety in operation for the process for which it is to be used and a certificate of such examination and tests signed by that competent person has been obtained and is kept available for inspection.

(iii) All parts of an oven or drier which has undergone any alteration or repair which has the effect of modifying any of the design characteristics shall not be used unless a thorough examination and tests as have been mentioned in clause (ii) has been carried out by a competent person and certificate of such examination and tests signed by that competent person has been obtained and is kept available for inspection.

(5) (i) Every oven or drier shall be provided with a positive and effective safety ventilation system using one or more motor driven centrifugal fans so as to dilute any mixture of air and any flammable substance that may be formed within the oven or drier and maintain the concentration of the flammable substance in the air at a safe level of dilution.

(ii) The safe level of dilution referred to in clause (i) shall be so as to achieve a concentration of the concerned flammable substance in air of not more than 25 percent, of its lower explosive limit:

Provided that a level of concentration in air up to 50 per cent of the lower explosive limit of the concerned flammable substance may be permitted to exist subject to installation and maintenance of an automatic device which

(a) shows continuously the concentration of the flammable substance in air present in the oven or drier at any instant;

(b) sounds an alarm when the concentration of the flammable substance in air in any part of the oven or drier, reaches a level of 50 percent of its lower explosive limit; and

(c) shuts down the heating system of the oven or drier automatically when the concentration in air of the flammable substance in any part of the oven or drier reaches a level of 60 per cent of its lower explosive limit, is provided to the oven or drier and maintained in efficient working condition.

(iii) No oven or drier shall be operated without its safety ventilation system working in an efficient manner.

(iv) Exhaust ducts of safety ventilation system should be so designed and placed that their ducts discharge the mixture of air and flammable substance away from the work rooms and not near windows or doors or other openings from where the mixture could re-enter the work rooms.

(v) The fresh air admitted into the oven or drier by means of the safety ventilation system shall be circulated adequately by means of circulating fan or fans through all parts of the oven or drier so as to ensure that there are no locations where the flammable substance can accumulate in the air or become pocketed to any dangerous degree.

(vi) Throttling dampers in any safety ventilation system should be so designed by cutting away a portion of the damper or otherwise, that the system will handle at least the minimum ventilation rate required for safety when they are set in their maximum throttling position.

(6) (i) Every oven or drier having an internal total space of not less than half cubic meter shall be provided with suitably designed explosion panels so as to allow release of the pressure of any possible explosion within the oven or drier through explosion vents. The area of openings to be provided by means of such vents together with the area of openings of any access doors which are provided with suitable arrangements for their release in case of an explosion, shall be not less than 2,200 square centimeters for every one cubic meter of volume of the oven or drier. The design of the explosion panels and doors as above said shall be such as to secure their complete release under an internal pressure of 0.25 kilogram per square centimetre.

(ii) The explosion releasing panels, shall, as far as practicable, be situated at the roof of the oven or drier or at those portions of the walls where persons do not remain in connection with operation of the oven or drier.

(7) In each oven or drier, efficient interlocking arrangements shall be provided and maintained to ensure that, -

(i) all ventilating fans and circulating fans whose failure would adversely affect the ventilation rate of flow pattern, are in operation before any mechanical conveyor that may be provided for feeding the articles or substances to be processed in the oven or drier is put into operation;

(ii) failure of any of the ventilating or circulating fans will automatically stop any conveyor as referred to in clause (i) as may be provided, as well as stop the fuel supply by closing the shut off valve and shut off the ignition in the case of gas or oil fired ovens and in the case of electrically heated ovens switch off the electrical supply to the heaters;

(iii) the above said mechanical conveyor is set in operation before the above said shut off valve can be energized; and

(iv) the failure of the above said conveyor will automatically close the above said shut off valve in the case of ovens and driers heated by gas, oil or steam and deactivate the ignition system, or cut off the electrical heaters in the case of electrically heated ovens or furnaces.

(8) Every oven or drier heated by oil, gas, steam or electricity shall be provided with an efficient arrangement for automatic pre-ventilation consisting of at least 3 volume changes with fresh air by operation of the safety ventilation fans and the circulating fans (if used so as to effect purging of the oven or drier of any mixture of air and a flammable substance before the heating system can be activated and before the conveyor can be placed in position)

(9) Every oven or drier shall be provided with an automatic arrangement to ensure that the temperature does not exceed a safe upper preset limit to be decided in respect of the particular processing being carried on.

(10) Wherever materials are to be processed in ovens or driers in successive operations, suitable arrangement should be provided to ensure that the operating temperatures necessary for safe operation at each stage are maintained within the design limits.

(11) Effective arrangements shall be provided in every oven or drier to prevent dripping of combustible substances on electric heaters or burner flame used for heating.

(12) (i) All parts of every oven and drier shall be properly maintained and thoroughly examined and the various controls as mentioned in this rule and the working of the oven or drier tested at frequent intervals to ensure its safe operation by a qualified person designated by the occupier, who by his experience and knowledge of necessary precautions against risks of explosion, is fit to undertake such work.

(ii) A register shall be maintained in which the details of the various tests carried out from time to time under clause (i) shall be entered and every entry made shall be signed by the person making the tests.

(13) No person shall be assigned any task connected with operation of any oven or drier unless he has completed 18 years of age and he is properly trained.

(14) (i) Printed fabric shall be thoroughly dried by passing them over drying cans or through hot flue or other equally effective means before the same is allowed to pass through polymerizing machines.

(ii) Infra-red ray heaters of polymerizing machines shall be cut off while running the prints.

**155. Reaction Vessels and Kettles.**-(1) This rule applies to reaction vessels and kettles (hereinafter in this rule referred to as reaction vessels) which normally work at a pressure not above the atmospheric pressure, but in which there is likelihood of pressure being created above the atmospheric pressure due to reaction getting out of control or any other circumstances.

(2) In the event of the vessel being heated by electrical means, a suitable control device shall be provided to prevent the temperature exceeding the safe limit.

(3) Where steam is used for heating purposes in reaction vessel it shall be supplied through a suitable pressure reducing valve or device.

(4) A suitable safety valve or rupture disc of adequate size and capacity shall be provided to effectively, prevent the pressure being built up in the reaction vessel beyond the safe limit. Effective arrangements shall be made to ensure that the released gases, fumes, vapors, liquids or dusts, as the case may be, are led away and disposed of through suitable pipes without causing any hazard. Where flammable gases or vapors are likely to be vented out from the vessel, the discharge end shall be provided with a flame arrestor.

(5) Every reaction vessel shall be provided with a pressure gauge having the appropriate range.

(6) In addition to the devices as mentioned in the fore-going provisions, means shall be provided for automatically stopping the feed into the vessel as soon as process conditions deviate from the normal limits to an extent which can be considered as dangerous.

(7) Where necessary, an effective system for cooling, flooding or blanketing shall be provided, for the purpose of controlling the reaction and process conditions within the safe limits of temperature and pressure.

(8) An automatic auditory and visual warning device shall be provided for clear warning whenever process conditions exceed the present limits. This device, wherever possible, shall be integrated with automatic process correction systems.

(9) A notice pointing out the possible circumstances in which pressures above atmospheric pressure may be built up in the reaction vessel, the dangers involved and the precautions to be taken by the operators shall be displayed at a conspicuous place near the vessel.

**156. Examination of eye sight of certain workers.**-(1) No person shall be employed to operate a crane, locomotive, fork lift truck or other vehicles or to give signals to crane or locomotive operator unless his eye sight and colour vision have been examined and declared fit by a qualified ophthalmologist to work whether with or without use of corrective glasses.

(2) The eye sight and colour vision of the person employed as referred to in sub-rule (1) shall be examined at least once in every two years.

(3) Any fee payable for an examination of a person under this rule and the cost of corrective glasses shall be paid by the occupier and shall not be recoverable from that person.

(4) The record of examination or re-examination carried out by the concerned ophthalmologist shall be produced on demand.

**157. Thermic Fluid Heaters.**-(1) All heaters shall be of such construction that coils are removable for periodic cleaning, visual inspection and hydraulic test.

- (2) Suitable arrangements shall be made for cooling the furnace effectively in case of power failure.
- (3) Before restarting the furnace, it shall be effectively purged.
- (4) Velocity of flow of the thermic fluid shall not be allowed to fall below the minimum recommended by the manufacturers while the heater is in operation.
- (5) The thermic fluid shall be circulated in closed circuit formation with an expansion-cum-deaerator tank. This tank shall be of suitable capacity and located outside the shed where the heater is installed.
- (6) Effective arrangements shall be provided to prevent dripping of thermic fluid on heaters, burner, any other source used for heating or any other inflammable or combustible material.
- (7) Every heater shall be provided with a Photo-register actuated Audio-Visual alarm to indicate flame failure and automatic burner cut off.
- (8) The stack temperature monitor-cum-controller with Audio-Visual alarm shall be provided so as to warn the operator in case the outlet temperature exceeds the specified minimum.
- (9) Where inspection doors are provided on the furnace they shall be inter-locked with the burner itself so that they cannot be opened until burner is shut off and furnace is cooled sufficiently.
- (10) All heaters shall also be provided with the following safety devices:
  - (i) Level control in the expansion tank;
  - (ii) Temperature control of thermic fluid;
  - (iii) Differential pressure switch on the outlet line of the heater tubes; and
  - (iv) Temperature control device for the fuel oil supply to the burner.
- (11) All devices mentioned in sub-rule (10) shall have interlocking arrangement with burner so that in case of any predetermined limits being crossed the supply of fuel and air to burner shall automatically be cut-off.
- (12) All safety interlocks when operated shall be indicated on the control panel of the heater by a suitable audio-visual alarm.
- (13) Every heater unit shall be provided as a standard accessory an arrangement for stifling with low pressure steam or nitrogen for putting out the fire.
- (14) Electric panel for the heater shall be located near the heater but not so close as to be exposed to spilling or leaking oil.
- (15) The heater shall be located in a place partitioned off with fire proof material from other manufacturing activities.
- (16) Explosion vent shall be so installed that release takes place at safe location.
- (17) The heater coil shall be subjected to pressure test by competent person once atleast in every 12 months. The test pressure shall not be less than twice the operating pressure.
- (18) If repairs are carried out to the coil, it shall be tested before taking it into use.
- (19) The thermic fluid shall conform to the specifications prescribed by the manufacturers and shall be tested by competent person for suitability atleast once in every three months period. Such test shall include test for acidity, suspended matter, ash contents, viscosity and flash point.
- (20) Cleaning of internal surface of the heater or soot and check up of refractory surface on the inside shall be carried out every month or as often as required depending upon working conditions. The coils shall be removed and surface of the coils cleaned thoroughly once at least in a period of six months. The burner, nozzles, oil filters and pumps shall be cleaned once a week during the periods of use.
- (21) A separate register containing the following information shall be maintained:-
  - (i) weekly checks carried out confirming the effectiveness of the interlock,
  - (ii) weekly checks confirming that all accessories are in good state of repairs, and
  - (iii) information regarding fuel oil temperature, pressure, thermic fluid inlet/outlet pressure and temperature, fuel gas temperature, recorded at four hourly interval.
- (22) The heater when in operation shall always be kept in charge of a trained operator.

**158. Competent Person.**- (1) The Chief Inspector-cum-Facilitator may recognize any person as the competent person within such area and for such period as may be specified for the purposes of carrying out tests, examination, inspections and certifications for such buildings, ventilation system, conveyors, power presses, confined spaces, thermic fluid heaters, centrifugal



machines, oven and driers, dust extraction system, blasting enclosures and such other processes of plant and equipment as stipulated in the Code and the rules made thereunder located in an establishment, if such person possesses the qualifications, experience and other requirements specified in the Schedule XLIII:

Provided that the Chief Inspector-cum-Facilitator may relax the requirements of qualifications in respect of competent person if such a person is exceptionally experienced and knowledgeable but not the requirements in respect of the facilities at his command:

Provided further that where it is proposed to recognise a person employed under the Chief Inspector-cum-Facilitator as a 'Competent Person' concurrence of the Government shall be taken and such a person after being so recognised shall not have the powers of an 'Inspector-cum-facilitator':

Provided also that the 'Competent Person' to be recognised under this rule shall not be above the age of sixty-two years and shall be physically and medically fit for the purpose of carrying out the requisite tests, examinations and inspections.

(2) The Chief Inspector-cum-Facilitator may recognise an institution of repute, having persons possessing qualifications and experience as specified in the Schedule XLIII, for the purposes of carrying out tests, examinations, inspections and certification for buildings, ventilation system, conveyors, power presses, confined spaces, thermic fluid heaters, centrifugal machines, oven and driers, dust extraction system, blasting enclosures and such other processes of plant and equipment as stipulated in the Code and the rules made thereunder as a competent person within such area and for such period as may be specified.

(3) A person or institute seeking recognition under the Code shall apply in **FORM XXXII** or **FORM XXXIII**, respectively.

(4) The Chief Inspector-cum-Facilitator on receipt of an application in the prescribed form from a person or an institution intending to be recognised as a 'Competent Person' for the purposes of this Code and rules made there under shall register such application and within a period of sixty days of the date of receipt of the application either after having satisfied himself as regards competence and facilities available at the disposal of the applicant, recognise the applicant as a 'Competent Person' and issue a certificate of competency in **FORM XXXIV** or reject the application specifying the reasons therefor.

(5) The Chief Inspector-cum-Facilitator may after giving an opportunity to the Competent Person of being heard, revoke the certificate of competency,

(i) if he has reason to believe that a Competent Person

- (a) has violated any condition stipulated in the certificate of competency; or
- (b) has carried out a test examination and inspection or
- (c) has acted in a manner inconsistent with the intent or the purpose of this Act or the rules made thereunder; or
- (d) has omitted to act as required under the Act and rules made thereunder

(ii) for any other reason to be recorded in writing

Explanation: For the purpose of this rule, an institution includes an organisation.

**159. Testing or Examination of certain machineries, equipments and accessories.**-(1) Notwithstanding anything contained in any other rules, the Government may notify the scheme of testing or examination of certain machineries, equipments and accessories for securing the safety and health of the workers employed therein.

(2) The scheme mentioned in sub-rule (1) shall include,-

- (i) Type of machinery/equipment
- (ii) Nature of testing or examination
- (iii) Periodicity of testing or examination
- (iv) Persons notified to conduct testing or examination
- (v) Fees for such testing or examination

(3) The Occupier shall apply for testing or examination in the prescribed form along with the online payment of the specified fees for such testing or examination one month in advance from the date on which the validity of the certificate expires.

(4) Notified person shall issue the certificate of testing or examination in the prescribed form within the specified timeline.

**160. Precautions in case of Conveyors.**-(1) For the purposes of this rule, "Conveyor " means a horizontal, inclined, or vertical device for moving or transporting material of any kind, in a path determined by the design of the device, and having points of loading or discharge and the device shall include skip hoists, but shall not include devices like cranes, hoists, monorails, bucket drag lines, platform elevators, plant railways, cableways and tramways.

**(2) Design, construction and maintenance, etc.**-(i) Conveyor shall be of good design, proper construction, sound material, adequate strength and free from defects and shall be properly maintained.

(ii) 'In running nips ' shall be securely fenced by safeguard of substantial construction or by any other suitable device.

(iii) Conveyor shall be installed in such a way that a clearance of at least 45 centimeters shall be provided between the conveyors side of the passage way and the conveyor. Hand rails or railings shall be provided on open sides of the walkway all along the belt.

(iv) When workers have to cross over conveyor, regular crossing facilities affording safe passage shall be provided.

(v) Suitable device like gongs, whistles or signal lights shall be provided to the operator to warn the workers before starting the conveyor.

(vi) (a) The starting button or switch for the conveyor shall be so located that the operator can see as much of the conveyor as possible. The starting and stopping devices shall be marked distinctly and so located that they can be clearly seen and safely approached.

(b) All personnel working on or around the conveyor shall be made to have knowledge about the location and operation of all stopping devices.

(vii) Side guard of sufficient height and strength shall be provided to prevent falling of material from the conveyor.

(viii) (a) conveyors shall be tested and the parts thereof thoroughly examined by a competent person before being taken into use for the first time or after it has undergone any alteration or major repairs liable to affect its strength or stability.

(b) A certificate of such tests and examinations signed by the competent person making the tests and examinations specifying the maximum safe conveying load shall be obtained and made available to the Inspector-cum-Facilitator on demand.

(c) Conveyors shall be thoroughly examined at least once in every twelve months by the competent person and report of the competent person shall be made available to the Inspector-cum-Facilitator on demand.

(ix) Belt conveyors carrying materials which might stick to tail drums or belts, shall be provided with fixed scrappers or revolving brushes for removing the deposits to avoid the hazards in cleaning the moving parts or pulleys by hand or shovels while the belts are in motion.

(x) Conveyors shall be provided with automatic and continuous lubrication systems or with lubricating facilities so arranged that oiling and greasing can be performed without the oils coming within the dangerous proximity to moving pans.

(xi) Before commencing any maintenance work, electrical or mechanical, ' permit ' to work shall be obtained from the Occupier or any person so authorized by the Occupier for the purpose and the procedure laid down in the permit shall be strictly followed.

(xii) The workers working on conveyor shall be adequately trained.

(xiii) No person shall be required or allowed to ride on conveyors.

**(3) Conveyor Guarding.**-(i) The Underpasses of the conveyor shall be securely guarded.

(ii) All the transfer points of conveyors system shall be adequately enclosed.

(iii) Where the top of hopper for feeding conveyor is less than 90 centimeters above floor, the opening shall be adequately guarded.

(iv) All the areas underneath the counterweight of the conveyor system shall be suitable (sic) barricaded so as to prevent any person getting injured due to accidental fall of the ' counterweight '.

(v) Gears, sprockets, sheaves and other moving parts shall be either adequately guarded or positioned in such a way as to protect workers against personal injuries.

**(4) Safety Devices.**-(i) A conveyor shall,-

(a) stop when its driving power is cut-off and remain stopped until the power is reconnected;

(b) have a provision at each point of loading or delivery of the conveyor, to stop the conveyor;

(c) not be capable of being restarted after having been stopped until the device, if any ,by which it is stopped is reset in the running position; and

(d) where the conveyor can be stopped by means of a push button have provision whereby the push button can be secured in the stop position.

(ii) (a) Chord shall be provided on both sides of the belt along the walkway covering the entire length of the belt when pulled shall stop the conveyor and the distance between two consecutive emergency stopping devices of the chords shall not exceed 23 (twenty three) meters.

(b) For conveyors other than belt conveyors emergency stopping devices shall be provided at the accessible points throughout the length of the conveyors and distance between the two consecutive devices shall not be more than 8 (eight) meters.

(iii) Overload protection device shall be provided so that when overloaded all starting devices shall get automatically tripped off. In addition to such overload protection customarily provided for electric motors, there shall be an overload device designed to protect the conveyor and mechanical drive parts. In the event of an overload, the device shall shut off the electric power quickly, disconnect the conveyor or drive parts from the motive power, or limit the applied torque.

(iv) When a conveyor has stopped because of an overload, all starting devices shall be locked out and the cause of the overload removed. The entire conveyor shall be inspected before it is restarted.

(v) If two or more conveyors are operated in series, conveyors shall be interlocked in such a way that if one conveyor is stopped all other conveyors fed by it shall be stopped simultaneously.

(vi) Conveyors which carry loads up inclines shall be provided with mechanical devices that will prevent machinery from reversing and carrying the loads back towards the loading point in the event of the power being cut-off.

(vii) The precautions necessary to avoid the accumulation of the static electricity shall be taken.

**(5) Personal Protective Equipment.**—The worker engaged in the operation of conveyors shall wear tight fitting clothing and use appropriate personal protective equipment.

**(6) Gravity Conveyors.**—(i) The delivery ends of the conveyors shall be provided with electrically or mechanically operated devices to give warning that a package is about to be delivered.

(ii) To prevent the spread of fire, the chute conveyors shall be,—

(a) enclosed in shafts made of fire resisting materials, with a door at each charging station and at the delivery end; or

(b) provided with automatic fire doors or with draught checks where the chutes pass through the floors.

(iii) The gravity roller conveyors shall be provided with guides or guard rails on each side of the conveyor way at corners or turns and on each side of those portions of the conveyor way which are more than 5(five) feet above the floor.

**(7) Chain Conveyor.**—(i) Overhead chain conveyor systems shall be so designed and installed that ample clearance is provided between the material transported and any fixed or moving objects.

(ii) Apron conveyors used for carrying unpacked bottles, jars or other glass containers shall be provided with side rails at a suitable distance above the conveying surfaces to prevent the containers from tipping over or falling off.

(iii) Return portion of a chain conveyor shall be adequately guarded.

**(8) Bucket Conveyors.**—(1) Inclined bucket conveyors shall be enclosed with solid guards which,

(a) are not less than 7 (seven) feet in height, but preferably extend to the full height of the machinery, so as

(i) to prevent anything being pushed or thrown into the shaft ways; and

(ii) to hold any material which might drop from the buckets; and

(b) are provided with wire-glass windows or doors or with removable sections to facilitate inspection, cleaning and repairs.

(2) Controls of movable tripping devices for bucket conveyors shall be so located that they can be operated from a safe position.

**(9) Screw Conveyors.**—(i) Screw conveyors shall be placed in steel or steel-lined trough fitted with well secured tight covers of not less than 3 (three) mm (1/8 inch) steel plates in removable sections and should be provided with second covers of heavy wire mesh in corresponding removable sections underneath the solid top covers so as to guard the screw when the solid cover is removed for inspection of the interior.

(ii) Inside cover of screw conveyors, or outside covers where so inside covers are provided, should be mechanically or electrically interlocked with the control units or driving mechanisms in such a manner that the power is automatically shut off whenever a section of the cover is removed.

(iii) No person shall be allowed/required to stand or walk on housings of screw conveyors.

**(10) Pneumatic Conveyors.**-(i) Blower or exhaust fans for pneumatic conveyors systems shall be

- (a) of non-combustible construction;
- (b) of adequate but not greatly excessive capacity properly to perform the functions required;
- (c) firmly secured to substantial supports or foundations;
- (d) so located and arranged as to afford ready and safe access for cleaning, inspection, lubrication and repairing; and
- (e) provided with remote control in addition to any controls located close to the systems.

(ii) Where readily ignitable materials are passed through fans for pneumatic conveyor systems, the blades and spiders of the fans shall be of non-ferrous material; or the casings shall be lined with non-ferrous material.

(iii) Blades or runners of blower or exhaust fans for pneumatic conveyor systems shall be of sufficient strength to prevent contact with casings or distortion under conditions of deposit loading or other operating factors.

(iv) Housing or casings of blower or exhaust fans for pneumatic conveyors shall be so constructed as to prevent distortion and loss of alignment under operating conditions.

(v) Intake openings of blowers or exhaust fans for pneumatic conveyors shall be protected with substantial metal screens or gratings.

(vi) Bearing of blower or exhaust fans for pneumatic conveyors shall be self-lubricating, dust-tight, and located outside casings and ducts.

(vii) Ducts for pneumatic conveyor systems shall be constructed of steel plate of adequate strength or other metal equal in strength to steel plate.

(viii) Ducts for pneumatic conveyor systems shall be

(a) reasonably tight throughout, with no openings other than those required for the proper operation and maintenance of the systems;

(b) substantially supported by metal brackets or hangers, and thoroughly braced where required ;and

(c) kept open and unobstructed throughout their entire length with no screens inside them.

(ix) Hand holes for cleaning purposes in ducts for pneumatic conveyors shall be equipped with tight-fitting sliding or swinging doors provided with substantial latches.

(x) Where material is fed by hand into pneumatic conveyors through openings 30 (thirty) centimeters 12 (twelve) inches or larger, provision shall be made to prevent worker from being drawn into the ducts, such as by installing feed hoppers extending at least 1 (one) meter-40 (forty inches) from the ducts.

(xi) Doors of a pneumatic conveyor shall be so interlocked that they cannot be opened when there is positive internal pressure and the conveyor cannot be started unless all the doors are closed.

**161. Precautions against ionizing radiation:** Notwithstanding anything contained in any other rules, all ionizing radiation exposures shall be kept as low as reasonably achievable (ALARA) and suitable control measures shall be employed to minimize radiation exposure of workers subject to the following dose limits.

**Dose limits**

<i>Part of the body (1)</i>	<i>Occupational exposure (2)</i>
Whole body (Effective dose)	20 mSv /year averaged over 5 consecutive years 30 mSv in any single year
Lens of eyes (Equivalent dose)	150 mSv in a year
Skin (Equivalent dose)	500 mSv in a year
Extremities- Hands and Feet (Equivalent dose)	500 mSv in a year

## SCHEDULE I

**Manufacture of Aerated Waters and other Bottling Processes**

(see rule 81)

**1. Fencing of machines.**-All machines for filling bottles or syphons shall be so constructed, placed or fenced as to prevent at far as may be practicable, a fragment of a bursting bottle or syphon from striking any person employed in the factory.

**2. Face-guards and gauntlets.**-(1) The occupier shall provide and maintain in good condition for the use of all persons engaged in filling bottles or syphons -

- (a) suitable face-guards to protect the face, neck and throat, and
- (b) suitable gauntlets for both arms to protect the whole hands and arms.

Provided that,-

(i) paragraph 2 (1) shall not apply where bottles are filled by means of an automatic machine so constructed that no fragment of a bursting bottle can escape, and

(ii) where a machine is so constructed that only one arm of the bottle at work upon it is exposed to danger, a gauntlet need not be provided for the arm which is not exposed to danger.

2) The occupier shall provide and maintain in good condition for the use of all persons engaged in corking, crowning, screwing, wiring, foiling, capsuling, sighting, handling or labeling bottles or syphons—

- (a) suitable face-guards to protect the face, neck and throat, and
- (b) suitable gauntlets for both arms to protect the arm and atleast half of the palm and the space between the thumb and forefinger.

**3. Wearing of face-guards and gauntlets.**-All persons engaged in any of the processes specified in paragraph (2) shall, while at work in such processes, wear the faceguards and gauntlets provided under the provisions of the said paragraph.

## SCHEDULE II

**Phosphating, Electrolytic Plating or Oxidation of Metal Articles by use of an Electrolyte containing Acids, Bases or Salts of Metals such as Chromium, Nickel, Cadmium, Zinc, Copper, Silver, Gold etc.**

(see rule 81)

**1. Application.**-The provisions of this schedule shall apply to all factories in which Phosphating, Electrolytic plating or oxidation of metal articles is carried on.

**2. Definitions.**-For the purposes of this schedule,-

(a) "electrolytic process" means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold, etc.

(b) "Phosphating process" means a chemical process for the surface treatment wherein soluble metal phosphate layers are formed.

(c) "bath" means any vessel used for an electrolytic process or for any subsequent process.

**3. Exhaust draught.**-An efficient exhaust draught shall be provided by mechanical means and shall operate on the vapour or spray given off in the process as near as may be at the point of origin. The exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the vapour or spray entering into any room or place in which work is carried on.

**4. Floor or workrooms.**-The floor of every workroom containing a bath shall be impervious to water. The floor shall be maintained in good and level condition and shall be washed down at least once a day.

**5. Protective devices.**-(1) The occupier shall provide and maintain in good and clean condition the following articles of protective devices for the use of all persons employed on any process and such devices shall be worn by the persons concerned.

- (a) water proof aprons and bibs;
- (b) for persons actually working at a bath, loose- fitting rubber gloves and rubber boots or other waterproof footwear, and chemical goggles; and
- (c) suitable and efficient respirator.

(2) The occupier shall provide and maintain for the use of all persons employed suitable accommodation for the storage and drying of protective devices.

**6. Water facilities.**-(1) There shall be provided and maintained in good repairs for the use of all persons employed in electrolytic process and processes incidental to it -

(a) a wash place under cover, with either -

(i) a trough with a smooth impervious surface fitted with a waste pipe, and of sufficient length to allow at least 60 cms. for every 5 persons employed at any one time, and having a constant supply of water from taps or jets above the trough intervals of not more than 60 cms; or

(ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and having a constant supply of water laid on;

(b) a sufficient supply of clean towels renewed daily, and soap or other suitable cleaning material.

(2) In addition to the facility in sub-paragraph (1) an approved type of emergency shower with eye fountain shall be provided and maintained in good working order. Wherever necessary, in order to ensure continuous water supply, storage tank of 1,500 liters capacity shall be provided as a source of clean water for emergency use.

**7. Cautionary placard.**-A cautionary placard in the form specified below and printed in the language of the majority of the employees employed shall be affixed in a prominent place in the factory where it can be easily and conveniently read by the employees.

#### CAUTIONARY NOTICE

1. Chemicals handled in this plant are corrosive and poisonous.

2. Smoking, chewing tobacco, eating food or drinking in this area is prohibited. No food stuff or drink shall be brought in this area.

3. Some of these chemicals maybe absorbed through the skin and may cause poisoning.

4. A good wash shall be taken before meals.

5. Protective devices supplied shall be used while working in this area.

6. Spillage of the chemicals on any part of the body or on the floor shall be immediately washed away with water.

7. All employees shall report for the prescribed medical tests regularly to protect their own health.

**8. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which this Schedule applies shall -

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose appointment shall be subject to the approval of the Chief Inspector-cum-Facilitator;

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a); and

(c) maintain a sufficient supply of suitable barrier cream, ointment and impermeable water proof plaster in a separate box readily accessible to the employees and used solely for the purpose of keeping these substances. In case cyanides are used in the bath, the box shall also contain an emergency cyanide kit.

(2) The medical practitioner shall examine all employees before they are employed in electrolytic processes. Such examination in case of chrome plating shall include inspection of hands, forearms and nose and will be carried out once at least in every fortnight.

(3) The record of the examinations referred to in sub-paragraph (2) shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**9. Medical examination by the Medical Officer.**-(1) Every employee employed in the electrolytic processes shall be examined by a Medical Officer before his first employment. Such examination shall include X-ray of the chest and -

(a) in case of chromium plating, include examination for nasal septum perforation and test for chromium in urine;

(b) in case of nickel plating, test for nickel in urine; and

(c) in case of cadmium plating, test for cadmium in urine and Beta-2 microglobulin in urine.

(2) No employee shall be employed in any electrolytic process unless certified fit for such employment by the Medical Officer.

(3) Every employee employed in the electrolytic processes shall be re-examined by a Medical Officer at least once in every year except in case of the employees employed in cadmium, chromium and nickel plating processes for whom this examination shall be carried out once in every six months. Such re-examination shall, wherever the Medical Officer considers appropriate, include tests as specified under sub-paragraph (1) excluding the X-ray of the chest which shall not be required normally to be carried out earlier than once in three years.

(4) The Medical Officer after examining an employee shall issue a Certificate of Fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be kept in the custody of the Occupier of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests shall also be entered by the Medical Officer in a health register in **FORM XXIV**.

(5) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(6) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the electrolytic processes on the ground that continuance therein would involve danger to the health of the employee, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person declared unfit in such circumstances shall be provided with alternate placement facility unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(7) No person who has been found unfit to work as said in sub-paragraph (6) shall be re-employed or permitted to work in the said processes unless the Medical Officer, after further examination again certifies him fit for employment in those processes.

**10. Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work in the process area wherein Phosphating, Electrolytic plating or oxidation of metal articles is carried on.

#### SCHEDULE III

##### Manufacture and Repair of Electric Accumulators

(see rule 81)

**1. Savings.-** This Schedule shall not apply to the manufacture or repair of electric accumulators or parts thereof not containing lead or any compound of lead; or to the repair on the premises, of any accumulator forming part of a stationary battery.

**2. Definitions.-** For the purposes of this schedule:

(a) "Lead process" means the melting of lead or any materials containing lead, casting, pasting, lead burning, or any other work, including trimming, or any other abrading or cutting of pasted plates, involving the use, movement or manipulation of, or contact with, any oxide of lead.

(b) "Manipulation of raw oxide of lead" means any lead process involving any manipulation or movement of raw oxides of lead other than its conveyance in a receptacle or by means of an implement from one operation to another.

**3. Separation of certain processes.-** Each of the following processes shall be carried on in such a manner under such conditions as to secure effectual separation from one another, and from any other process;

- (a) Manipulation of raw oxide of lead;
- (b) Pasting;
- (c) Drying of pasted plates;
- (d) Formation with lead burning ("tacking") necessarily carried on in connection therewith;
- (e) Melting down of pasted plates.

**4. Air-space.-** In every room in which a lead process is carried on, there shall be at least 14.2 cubic meters of air space for each person employed therein, and in computing this air space no height over 3.7 meters shall be taken into account.

**5. Ventilation.-** Every workroom shall be provided with inlets and outlets of adequate size as to secure and maintain efficient ventilation in all parts of the room.

**6. Distance between employees in pasting room.-** In every pasting room the distance between the centre of the working position of any paster and that of the paster working nearest to him shall not be less than 1.5 meters.

**7. Floor of work-rooms.-** (1) The floor of every room in which a lead process is carried on shall be -

- (a) of cement or similar material so as to be smooth and impervious to water;
- (b) maintained in sound condition;

(c) kept free from materials, plant, or other obstruction not required for, or produced is the process carried on in the room.

(2) In all such rooms other than grid casting shops the floor shall be cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.

(3) In grid casting shop the floor shall be cleansed daily.

(4) Without prejudice to the requirements of sub- paragraphs (1), (2) and (3) where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be

(a) kept constantly moist while work is being done;

(b) provided with suitable and adequate arrangements for drainage ;

(c) thoroughly washed daily by means of a hose pipe.

**8. Work-benches.**-The work benches at which any lead process is carried on shall -

(a) have a smooth surface and be maintained in sound condition;

(b) be kept free from all materials or plant not required for, or produced in, the process carried on thereat;

and all such work-benches other than those in grid casting shops shall

(c) be cleaned daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat;

and, all such work-benches in grid casting shops shall

(d) be cleansed daily;

and every work-bench used for pasting shall -

(e) be covered throughout with sheet lead or other impervious material;

(f) be provided with raised edges;

(g) be kept constantly moist while pasting is being carried on.

**9. Exhaust draught.**-The following processes shall not be carried on without the use of an efficient exhaust draught;

(a) Melting of lead or materials containing lead.

(b) Manipulation of raw oxide of lead, unless done in an enclosed apparatus so as to prevent the escape of dust into the workroom.

(c) Pasting

(d) Trimming, brushing, filing or any other abrading or cutting of pasted plates giving rise to dust.

(e) Lead burning, other than

(i) "tacking" in the formation room;

(ii) chemical burning for the making of lead linings for cell cases necessarily carried on in such a manner, that the application of efficient exhaust is impracticable.

Such exhaust draught shall be effected by mechanical means and shall operate on the dust or fume given off as nearly as maybe at its point of origin, so as to prevent its entering the air of any room in which persons work.

**10. Fumes and gases from melting pots.**-The products of combustion produced in the heating of any melting pot shall not be allowed to escape into a room in which persons work.

**11. Container for dross.**-A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the workroom, except when dross is being deposited therein.

**12. Container for lead waste.**-A suitable receptacle shall be provided in every workroom in which old plates and waste material which may give rise to dust shall be deposited.

**13. Racks or shelves in drying room.**-The racks or shelves provided in any drying room shall not be more than 2.4 meters from the floor not more than 61 centimeters in width: provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 1.2 meters. Such racks or shelves shall be cleansed only after being thoroughly damped unless an efficient suction cleaning apparatus is used for this purpose.



**14. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory in which manufacture and repair of electric accumulators is carried on shall.-

(a) Employ a qualified medical practitioner for medical surveillance of the employees employed therein, whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**15. Medical examination by Medical Officer.**-(1) Every employee employed in lead processes shall be examined by a Medical Officer within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, **Aminolevulinic Acid** in urine, hemoglobin content stippling of cells and steadiness test. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical Officer at least once in every three calendar months. Such re-examination shall, wherever the Medical Officer considers appropriate, include tests specified in sub-paragraph (1).

(3) The Medical Officer after examining an employee shall issue a Certificate of Fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Occupier of the factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re- employed or permitted to work in the said processes unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**16. Protective clothing.**-Protective clothing shall be provided and maintained in good repair for all persons employed in

(a) Manipulation of raw oxide of lead;

(b) pasting;

(c) the formation room ;

and such clothing shall be worn by the persons concerned. The protective clothing shall consist of a waterproof apron and waterproof footwear; and, also as regards persons employed in the manipulation of raw oxide of lead or in pasting, head coverings. The head coverings shall be washed daily.

**17. Mess-room.**-There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mess-room which shall be furnished with (a) sufficient tables and benches, and (b) adequate means for warming food.

The mess-room shall be placed under the charge of a responsible person, and shall be kept clean.

**18. Cloak-room.**-There shall be provided and maintained for the use of all persons employed in a lead process,-

(a) A cloak-room for clothing put off during working hours with adequate arrangements for drying the clothing if wet. Such accommodation shall be separate from any mess-room.

(b) Separate and suitable arrangements for the storage of protective clothing provided under paragraph 16.

**19. Washing facilities.**-There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process

(a) A wash place under cover, with either

(i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of at least 61 centimeters for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 61 centimeters ; or

(ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water laid on;

(iii) a sufficient supply of clean towels made of suitable materials renewed daily, which supply, in the case of pasters and persons employed in the manipulation of raw oxide of lead, shall include a separate marked towel for each such employee; and

(iv) a sufficient supply of soap or other suitable cleansing material and of nail brushes.

(b) There shall in addition be provided means of washing in close proximity to the rooms in which manipulation of raw oxide of lead or pasting is carried on if required by notice in writing from the Chief Inspector-cum-Facilitator.

**20. Time to be allowed for washing.**-Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person who has been employed in the manipulation of raw oxide of lead or in pasting:

Provided that if there be one basin or 61 centimeters of trough for each such person this rule shall not apply.

**21. Facilities for bathing.**-Sufficient bath accommodation to the satisfaction of the Chief Inspector-cum-Facilitator shall be provided for all persons engaged in the manipulation of raw oxide of lead or in pasting, and a sufficient supply of soap and clean towels.

**22. Food, drinks, etc., prohibited in workrooms.**-No food, drink, pan and supari or tobacco shall be consumed or brought by any employee into any workroom in which any lead process is carried on.

**23. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any Lead process or in any room in which the manipulation of raw oxide of lead or pasting is carried on.

#### SCHEDULE IV

#### Glass Manufacture

(see rule 81)

##### 1. Definitions.-(1)For the purpose of this schedule -

(a) "Efficient exhaust draught" means localized ventilation effected by mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dusts originate.

(b) "Lead compound" means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid a quantity of soluble lead compound exceeding when calculated as lead monoxide, 5 percent of the dry weight of the portion taken for analysis.

(2) The method of treatment shall be as follows:

A weighed quantity of the material which has been dried at 100°C and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 percent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.

**2. Exhaust draught.**-The following processes shall not be carried on except under an efficient exhaust draught or under such other conditions as may be approved by the Chief Inspector-cum-Facilitator:-

(a) The mixing of raw materials to form a "batch".

(b) The dry grinding, glazing and polishing of glass or any article of glass.

(c) All processes in which hydrofluoric acid fumes or ammoniacal vapors are given off.

(d) All processes in the making of furnace moulds or "pots" including the grinding or crushing of used "pots"

(e) All processes involving the use of a dry lead compound.

(f) All furnaces, heating ovens and driers.

(g) All machineries involving the secondary processing on glass material

**3. Floors and work-benches.**-The floor and work-benches of every room in which a dry compound of lead is manipulated or in which any process is carried on giving off silica dust shall be kept moist and shall comply with the following requirements

The floor shall be --

(a) of cement or similar material so as to be smooth and impervious to water ;

(b) maintained in sound conditions ; and

(c) cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.

The work-benches shall —

(a) have a smooth surface and be maintained in sound condition, and

(b) be cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat.

**4. Use of Hydrofluoric Acid.**-The following provisions shall apply to rooms in which glass is treated with hydrofluoric acid:

(a) There shall be inlets and outlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room;

(b) the floor shall be covered with gutta-percha and be tight and shall slope gently down to a covered drain;

(c) the work places shall be so enclosed in projecting hoods that openings required for bringing in the objects to be treated shall be as small as practicable ; and

(d) the efficient exhaust draught shall be so contrived that the gases are exhausted downwards.

**5. Storage and transport of Hydrofluoric acid.**-Hydrofluoric acid shall not be stored or transported except in cylinders or receptacles made of lead or rubber.

**6.** Suitable facilities shall be readily available for sterilizing the blow-pipes used by the glass blowers and such blow-pipes shall be sterilized at the beginning of the operations of blowing, each day.

**7. Work near furnaces.**- (i) No person shall carry out any work near furnace within the distance dangerous to the health and safety.

(ii) All precautions shall be taken to prevent de-hydration to the employees employed near-by.

**8. Provision of safety arrangements.**-(i) Suitable interlock arrangement shall be provided and maintained in all the machines so as to ensure the safety of persons employed therein.

(ii) No process or work shall be carried on in such a manner as to cause risk of bodily injury to the persons employed.

**9. Food, drinks, etc., prohibited in workrooms.**-No food, drink, pan and supari or tobacco shall be brought into or consumed by any employee in any room or work place wherein any process specified in paragraph 2 is carried on.

**10. Protective clothing.**-The occupier shall provide, maintain in good repair and keep in a clean condition for the use of all persons employed in the processes specified in paragraph 3 suitable protective clothing, footwear and goggles according to the nature of the work and such clothing, footwear, etc., shall be worn by the persons concerned.

**11. Washing facilities.**-There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in the processes specified in paragraph 3,-

(a) a wash place with either -

(i) a trough with a smooth impervious surface fitted with a waste pipe, without plug and of sufficient length to allow of at least 61 centimeters for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 61 centimeters ; or

(ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available ; and

a sufficient supply of clean towels made of suitable materials renewed daily with a sufficient supply of soap or other suitable cleansing material and of nail brushes ; and

(b) a sufficient number of stand pipes with taps - the number and location of such stand pipes shall be to the satisfaction of the Chief Inspector-cum-Facilitator.

**12. Medical facilities and record of examinations and tests.**-(1) The Occupier of every factory in which glass manufacturing processes are carried out, shall -

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose appointment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**13. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any of the processes specified in paragraph 2 are carried on.

#### SCHEDULE V

#### Grinding or Glazing of Metals and Processes Incidental thereto

(see rule 81)

##### 1. Definitions.-For the purposes of this schedule-

(a) "Grindstone" means a grindstone composed of natural or manufactured sandstone but does not include a metal wheel or cylinder into which blocks of natural or manufactured sandstone are fitted;

(b) "Abrasive wheel" means a wheel manufactured of bonded emery or similar abrasive;

(c) "Grinding" means the abrasion, by aid of mechanical power of metal, by means of a grindstone or abrasive wheel;

(d) "Glazing" means the abrading, polishing or finishing by aid of mechanical power of metal, by means of any wheel, buff mop or similar appliance to which any abrading or polishing substance is attached or applied;

(e) "Racing" means the turning up, cutting or dressing of a revolving grindstone before it is brought into use for the first time;

(f) "Hacking" means the chipping of the surface of a grindstone by a hack or similar tool;

(g) "Rodding" means the dressing of the surface of a revolving grindstone by the application of rod, bar or strip of metal to such surface.

**2. Safety precautions regarding grinding and glazing machinery.**-(1) All collars, set screws, shafts, couplings, clutches, keys, pulleys, keys and belts in polishing and grinding machines shall be effectively guarded.

(2) (i) Defective wheels shall not be used.

(ii) Grinding wheels shall fit freely on their spindles. They shall never be forced on, nor shall they be let loose on spindles.

(iii) The soft metal bushings at the centre shall not extend beyond the sides of the wheels. Wheels shall be kept as true as practicable and work rests shall be kept adjusted close to wheels.

(iv) Wherever possible a compressible medium such as blotting paper, rubber or similar material, at least as large III diameter as that of the flanges, shall be fitted between a wheel and each of its flanges.

(v) Projecting arbor ends of grinding and polishing wheels shall be effectively guarded.

(3) Every emery or abrasive wheel shall be provided with a strong iron cover guard that shall enclose the wheel as far as practicable to retain fragments in the event of bursting. The guard shall be securely attached to the frame of the machine or other solid foundation.

(4) Wheels shall not be operated at a speed in excess of that which is recommended by the manufacturer.

##### 3. Equipment for removal of dust.-No racing, dry grinding or glazing shall be performed without-

(a) a hood or other appliance so constructed, arranged, placed, and maintained as substantially to intercept the dust thrown off;

(b) a duct of adequate size, air-tight and so arranged as to be capable of carrying away the dust, which dust shall be kept free from obstruction and shall be provided with proper means of access for inspection and cleaning, and where practicable, with a connection at the end remote from the fan to enable the Inspector-cum-Facilitator to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and

(c) a fan or other efficient means of producing a draught sufficient to extract the dust :

Provided that the Chief Inspector-cum-Facilitator may accept any other appliance that is, in his opinion, as effectual for the interception, removal and disposal of dust thrown off as a hood, duct and fan would be.

**4. Restriction on employment on grinding operations.**—Not more than one person shall at any time perform the actual process of grinding, or glazing upon a grindstone, abrasive wheel or glazing appliance:

Provided that this paragraph shall not prohibit the employment of persons to assist in the manipulation of heavy or bulky articles at any such grindstone, abrasive wheel or glazing appliance.

**5. Glazing.**—Glazing or other processes, except processes incidental to wet grinding upon a grindstone shall not be carried on in any room in which wet grinding upon a grindstone is done.

**6. Hacking and rodding.**—Hacking or rodding shall not be done unless during the process either (a) an adequate supply of water is laid on at the upper surface of the grindstone or (b) adequate appliances for the interception of dust are provided in accordance with the requirements of paragraph 3.

**7. Examination of dust equipment.**—(a) All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by a competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable.

(b) A register containing particulars of such examination and test shall be kept in **FORM XXVII**

**8. Personnel Protective Equipment:**—The occupier of every factory to which this schedule applies shall provide to employees personnel protective equipments such as breathing apparatus, hand gloves, shoes, helmets, goggles, earplug, aprons, etc, as per the relevant standard prescribed by the Bureau of Indian Standards and maintained in good conditions for use of every person employed.

**9. Medical facilities and record of examinations and tests.**—(1) The Occupier of every factory in which grinding or glazing of metals are carried out, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose appointment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in grinding or glazing of metal and processes incidental thereto shall be examined by a Medical practitioner within 15 days of his first employment and re-examined at least once in every 12 calendar months.

#### SCHEDULE VI

#### Manufacture and Treatment of Lead and Certain Compounds of Lead

(see rule 81)

**1. Definitions.**—For the purposes of this schedule

(a) "Lead compound" means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five per cent. of the dry weight of the portion taken for analysis. In the case of paints and similar products and other mixtures containing oil or fat the "dry weight" means the dry weight of the material remaining after the substance has been thoroughly mixed and treated with suitable solvents to remove oil, fats, varnish or other media.

The method of treatment shall be as follows:—

A weighed quantity of the material which has been dried at 100°C and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent. by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.

(b) "Efficient exhaust draught" means localized ventilation effected by heat or mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fumes or dust originate.

(c) "Manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using, etc.

**2. Application.**—This schedule shall apply to all factories or parts of factories in which any of the following operations are carried on:

- (a) Work at a furnace where the reduction or treatment of zinc or lead ores is carried on.
- (b) The manipulation, treatment or reduction of ashes containing lead, the de-silverising of lead or the melting of scrap lead or zinc.
- (c) The manufacture and manipulation of solder or alloys containing more than ten percent of lead.
- (d) The manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate, or silicate of lead.
- (e) Handling or mixing of lead tetraethyl.
- (f) Any other operation involving the use of a lead compound.
- (g) The cleaning of workroom where any of the operations aforesaid are carried on.

**3. Requirements to be observed.**—No person shall be employed or permitted to work in any process involving the use of lead compounds if the process is such that dust or fume from a lead compound is produced therein, or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the provisions of paragraphs 4 to 11 are complied with.

**4. Exhaust draught.**—Where dust, fume, gas or vapour is produced in the process, provision shall be made for removing them by means of any efficient exhaust draught so contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin.

**5. Medical facilities and records of examinations and tests.**—(1) The Occupier of every factory to which the schedule applies shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose appointment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in the processes referred to in paragraph 3 shall be examined by a Medical practitioner within 15 days of his first employment. Such examination shall include tests for lead in blood and urine, Aminolevulinic Acid in urine, hemoglobin content, stippling of cells and steadiness tests. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical practitioner.

(4) Every employee employed in the said processes shall be re-examined by a Medical practitioner at least once in every three calendar months. Such re-examination shall, wherever the Medical practitioner considers appropriate, include tests specified in sub-paragraph (3).

**6. Food, drinks, etc., prohibited in workrooms.**—No food, drink, pan and supari or tobacco shall be brought into or consumed by any employee in any workroom or workplace wherein any process specified in paragraph 2 is carried on and no person shall remain in any such room during intervals for meals or rest.

**7. Protective clothing.**—Suitable protective overalls and head coverings shall be provided, maintained and kept clean by the factory occupier and such overalls and head coverings shall be worn by the persons employed.

**8. Cleanliness of workrooms, tools, etc.**—The rooms in which the person's are employed and all tools and apparatus used by them shall be kept in a clean state.

**9. Washing facilities.**—(1) The Occupier shall provide and maintain for the use of all persons employed, suitable washing facilities consisting of

(a) a trough with a smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least 61 centimeters for every ten persons employed at any one time, and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 61 centimeters ; or

(b) atleast one wash-basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water, together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material and clean towels.

(2) The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.

**10. Mess-room or Canteen.**-The occupier shall provide and maintain for the use of the persons employed suitable and adequate arrangements for taking their meals. The arrangement shall consist of the use of a room separate from any workroom which shall be furnished with sufficient tables and benches and unless a canteen serving hot meals is provided, adequate means for warming food. The room shall be adequately ventilated by the circulation of fresh air shall be placed under the charge of a responsible person and shall be kept clean.

**11. Cloak-room.**-The occupier shall provide and maintain for the use of persons employed, suitable accommodation for clothing not worn during working hours, and for the drying of wet clothing.

**12. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any of the operations specified in paragraph 2.

#### SCHEDULE VII

##### Generation of Gas from Dangerous Petroleum

(see rule 81)

**1. Flame traps.**-The plant for generation of gas from dangerous petroleum and associated piping and fittings shall be fitted with atleast two efficient flame traps so designed and maintained as to prevent a flash back from any burner to the plant. One of these traps shall be fitted as close to the plant as possible. The plant and all pipes and valves shall be installed and maintained free from leaks.

**2. Generating building or room.**-All plants for generation of gas from dangerous petroleum erected after the coming into force of the provisions specified in this schedule shall be erected outside the factory building proper in a separate well ventilated building (hereinafter referred to as the "generating building"). In the case of such plant erected before the coming into force of the provisions specified in this schedule there shall be no direct communication between the room where such plants are erected (hereinafter referred to as the "generating room"), and the remainder of the factory building. So far as practicable, all such generating rooms shall be constructed of fire-resisting materials.

**3. Fire Extinguishers.**-An efficient means of extinguishing petrol fires shall be maintained in an easily accessible position near the plant for generation of gas from dangerous petroleum.

**4. Plant to be approved by the Chief Inspector-cum-Facilitator.**-Gas from dangerous petroleum shall not be manufactured except in a plant for generating gas from dangerous petroleum, the design and construction of which has been approved by the Chief Inspector-cum-Facilitator.

**5. Escape of dangerous petroleum.**-Effective steps shall be taken to prevent dangerous petroleum from escaping into any drain or sewer.

**6. Prohibition relating to smoking, etc.,**-No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in the generating room or generating building or in the vicinity thereof and a warning notice in the language understood by the majority of the employees shall be pasted in the factory prohibiting smoking and the carrying of matches, fire or naked light or other means of producing a naked light or spark into such room or building.

**7. Access to dangerous petroleum or container.**-No unauthorized person shall have access to any dangerous petroleum or to vessel containing or having actually contained (dangerous) petroleum.

**8. Electric fittings.**-All electric fittings shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead sheathed.

**9. Construction of doors.**-All doors in generating room or generating building shall be constructed to open outwards or to slide and no door shall be locked or obstructed or fastened in such a manner that it cannot be easily and immediately opened from the inside while gas is being generated and any person is working in the generating room or generating building.

**10. Repair of containers.**-No vessel that has contained petroleum shall be repaired in a generating room or generating building and no repairs to any such vessel shall be undertaken unless live-steam has been blown into the vessel and until the interior is thoroughly steamed out or other equally effective steps have been taken to ensure that it has been rendered free from dangerous petroleum or inflammable vapour.

**11. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work or enter in any building in which the generation of gas from dangerous petroleum is carried on.

## SCHEDULE VIII

**Cleaning, Smoothing, Roughening etc., of Articles by a Jet of Sand Metal Shot or Grit or other Abrasive Propelled by a Blast of Compressed Air or Steam**

(see rule 81)

**1. Definitions.**-For the purposes of this schedule

(a) "Blasting" means cleaning, smoothing, peening, roughening or removing of any part of the surface of any article by the use as an abrasive of a jet of sand, metal shot, or grit or other material, propelled by a blast, of compressed air or steam.

(b) "Blast enclosures" means a chamber, barrel cabinet or any other enclosure designed for the performance of blasting therein.

(c) "Blasting chamber" means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise.

(d) "Cleaning of castings", where done as an incidental or supplemental process in connection with the making of metal castings, means, the freeing of the casting from adherent sand or other substance and includes the removal of dross and the general smoothing of a casting, but does not include the free treatment.

**2. Prohibition of sand blasting.**-Sand or any other substance containing free silica shall not be introduced as an abrasive into any blasting apparatus and shall not be used for blasting.

**3. Precautions in connection with blasting operations.**-(1) Blasting to be done in blasting enclosure: Blasting shall not be done except in a blasting enclosure and no work other than blasting and any work immediately incidental thereto and cleaning and repairing of the enclosure including the plants and appliances situated therein, shall be performed in a blasting enclosure. Every door, aperture and joint of blasting enclosure, shall be kept closed and air-tight, while blasting is being done therein.

(2) Maintenance of blasting enclosure: Blasting enclosure shall always be maintained in good condition and effective measures shall be taken to prevent dust escaping from such enclosures and from any apparatus connected therewith, into the air of any room.

(3) Provision of separating apparatus: There shall be provided and maintained for and in connection with every blasting enclosure, efficient apparatus for separating, so far as practicable, abrasive which has been used for blasting and which is to be used again as an abrasive, from dust or particles or other materials arising from blasting; and no such abrasive shall be introduced into any blasting apparatus and used for blasting until it has been so separated:

Provided that this clause shall not apply, except in the case of blasting chambers, to blasting enclosures constructed or installed before the coming into force of this Schedule, if the Chief Inspector-cum-Facilitator is of the opinion that it is not reasonably practicable to provide such separating apparatus.

(4) Provision of ventilating plant: There shall be provided and maintained in connection with every blasting enclosure efficient ventilating plant to extract, by exhaust draught effected by mechanical means, dust produced in the enclosure. The dust extracted and removed shall be disposed of by such method and in such a manner that it shall not escape into the air of any room; and every other filtering or settling device situated in a room in which persons are employed, other than persons attending to such bag or other filtering or settling device, shall be completely separated from the general air of that room in an enclosure ventilated to the open air.

(5) Operation of ventilating plant: The ventilating plant provided for the purpose of sub- clause (4) shall be kept in continuous operation wherever the blasting enclosure is in use whether or not blasting is actually taking place therein, and in the case of a blasting chamber, it shall be in operation even when any person is inside the chamber for the purpose of cleaning.

(6) No person shall be required or allowed to work in blasting enclosure unless he is provided with suitable breathing apparatus capable of continuous supply of fresh air.

(7) No process or work shall be carried on in such a manner as to cause risk of bodily injury to the persons employed.

**4. Inspection and examination.**-(1) Every blasting enclosure shall be examined by a qualified person once in every week and specially tested by a competent person once in every six months, in which it is used for blasting. Every blasting enclosure, the apparatus connected therewith and the ventilating plant shall be thoroughly examined and in the case of ventilating plant, examined by a qualified person once in every month and tested by a competent person once in every six months.

(2) Particulars of the result of every such inspection, examination and test shall forthwith be entered in a register in **FORM XXV**, which shall be kept in a form approved by the Chief Inspector-cum-Facilitator and shall be available for inspection by any workman employed in, or in connection with, blasting in the factory. Any defect found on any such inspection, examination or test shall be immediately reported by the person carrying out the inspection, examination or test to the Occupier or other appropriate person and without prejudice to the foregoing requirements of this Schedule, shall be removed without avoidable delay.

**5. Provision of protective helmets, gauntlets and overalls.**- (1) There shall be provided and maintained for the use of all persons who are employed in a blasting chamber, whether in blasting or in any work connected therewith or in cleaning such



a chamber, protective helmets of a type approved by a certificate of the Chief Inspector-cum-Facilitator; and every such person shall wear the helmet provided for this use whilst he is in the chamber and shall not remove it until he is outside the chamber

(2) Each protective helmet shall carry a distinguishing mark indicating the person by whom it is intended to be used and no person shall be allowed or required to wear a helmet not carrying his mark or a helmet which has been worn by another person and has not since be thoroughly disinfected.

(3) Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less than 0.17 cubic meter per minute.

(4) Suitable gauntlets and overalls shall be provided for the use of all persons while performing blasting or assisting at blasting and every such person shall, while so engaged, wear the gauntlet and overall provided.

**6. Precautions in connection with cleaning and other work.-** (1) Where any person is engaged upon cleaning of any blasting apparatus or blasting enclosure or of any apparatus or ventilating plant connected therewith or the surroundings thereof or upon any other work in connection with any blasting apparatus or blasting enclosure or with any apparatus or ventilating plant connected therewith so that he is exposed to the risk of inhaling dust which has arisen from blasting, all practicable measures shall be taken to prevent such inhalation.

(2) In connection with any cleaning operation referred to in clause 5 and the removal of dust from filtering or settling devices all practicable measures shall be taken to dispose of the dust in such manner that it does not enter the air of any room. Vacuum cleaners shall be provided and used wherever practicable for such cleaning operations.

**7. Storage accommodation for protective wear.-** Adequate and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by clause 5 shall be provided outside, and conveniently near to, every blasting enclosure and such accommodation shall be kept clean. Helmets, gauntlets and overalls when not in actual use shall be kept in this accommodation.

**8. Maintenance and cleaning of protective wear.-** All helmets, gauntlets, overalls, and other protective devices or clothings provided and worn for the purpose of this Schedule, shall be kept in good condition and so far as is reasonably practicable shall be cleaned on every week day in which they are used. Where dust arising from the cleaning of such protective clothing or devices is likely to be inhaled, all practicable measures shall be taken to prevent such inhalation. Vacuum cleaners shall, wherever practicable, be used for removing dust from such clothing and compressed air shall not be used for removing dust from any clothing.

**9. Maintenance of vacuum cleaning plant.-** Vacuum cleaning plant used for the purpose of this Schedule shall be properly maintained.

**10. Medical facilities and records of examinations and tests.-** (1) The occupier of every factory to which the schedule applies, shall,-

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator ; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in any of the processes to which this Schedule applies shall be examined by a Medical practitioner within 15 days of his first employment and re-examined at least once in every 12 calendar months.

**11. Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work in any operations directly or indirectly connected with blasting.

#### SCHEDULE IX

#### Liming and Tanning of Raw Hides and Skins, Wet Leather Finishing and Processes Incidental thereto

(see rule 81)

**1. Cautionary notices.-** (1) Cautionary notices as to anthrax in the form specified by the Chief Inspector-cum-Facilitator shall be affixed in prominent positions in the factory where they may be easily and conveniently read by the persons employed.

(2) A copy of a warning notice as to anthrax in the form specified by the Chief Inspector-cum-Facilitator shall be given to each person employed when he is engaged, and subsequently if still employed, on the first day of each calendar year.

(3) Cautionary notices as to the effects of chrome on the skin shall be affixed in prominent positions in every factory in which chrome solutions are used and such notices shall be so placed as to be easily and conveniently read by the persons employed.

(4) Notices shall be affixed in prominent places in the factory stating the position of the "First-aid" box or cupboard and the name of the person in charge of such box or cupboard.

(5) If any person employed in the factory is illiterate, effective steps shall be taken to explain carefully to such illiterate person the contents of the notices specified in paragraphs 1, 2, and 4 and if chrome solutions are used in the factory the contents of the notice specified in Paragraph 3.

**2. Protective clothing.**—The occupier shall provide and maintain in good condition the following articles of protective clothing:—

(a) water-proof foot-wear, leg coverings, aprons and gloves for persons employed in process involving contact with chrome solutions, including the preparation of such solution;

(b) gloves and boots for persons employed in lime-yard; and

(c) protective foot-wear, aprons and gloves for persons employed in processes involving the handling of hides or skins, other than in processes specified in clauses (a) and (b):

Provided that,—

(i) the gloves, aprons, leg coverings or boots may be of rubber or leather, but the gloves and boots to be provided under sub-clauses (a) and (b) shall be of rubber;

(ii) the gloves may not be provided to persons fleshing by hand or employed in processes in which there is no risk of contact with lime, sodium sulphide or other caustic liquor.

**3. Precautions against dangerous fumes, gases, etc.**— (1) No person shall be required or allowed to enter any chamber, tank, vat, pit, pipe, flue or other confined space in any factory in which any gas, fume, vapour or dust is likely to be present to such an extent as to involve risk to persons being overcome thereby, unless it is provided with a manhole of adequate size or other effective means of egress.

(2) No person shall be required or allowed to enter any confined space as is referred to in sub-paragraph (1), until all practicable measures have been taken to remove any gas, fume, vapour or dust, which may be present so as to bring its level within the permissible limits and to prevent any ingress of such gas, fume, vapour or dust and unless—

(a) a certificate in writing has been given by a competent person, based on a test carried out by himself that the space is reasonably free from dangerous gas, fume, vapour or dust; or

(b) such person is wearing suitable breathing apparatus and a belt securely attached to a rope the free end of which is held by a person outside the confined space.

**4. Ventilation.**—Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances could be present. These arrangements shall ensure that concentrations, which are either harmful or could result in explosion, are not permitted to be built up in the work environment.

**5. Washing facilities, mess-room and cloak-room.**—There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed

(a) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 61 centimeters for every ten persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 61 centimeters ; or

(b) at least one wash-basin for every ten such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material, and clean towels ;

(c) a suitable mess-room, adequate for the number remaining on the premises during the meal intervals, which shall be furnished with sufficient tables and benches and adequate means for warming food and for boiling water.

The mess-room shall (1) be separate from any room or shed in which hides or skins are stored, treated or manipulated, (2) be separated from the cloak-room and (3) be placed under the charge of a responsible person ;

(d) The occupier shall provide and maintain for the use of all persons employed, suitable accommodation for clothing put off during working hours and another accommodation for protective clothing and shall also make adequate arrangements for drying up the clothing in both the cases, if wet. The accommodation so provided shall be kept clean at all times and placed under the charge of a responsible person.

**6. Food, drinks, etc., prohibited in work-rooms.**—No food, drink, pan and supari or tobacco shall be brought into or consumed by any employee in any work room or shed in which hides or skins are stored, treated or manipulated.

**7. Medical facilities and records of examination and tests.**—(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator;

- (b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a);
- (c) arrange for inspection of the hands of all the persons keeping in contact with the Chromium substances to be made twice a week ; and
- (d) provide and maintain and supply suitable ointment and plaster in a box readily accessible to the employees and solely used for the purpose of keeping the ointment and the plaster.

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**8. Medical Examination by Medical officer.**-(1) Every employee employed in any of the processes to which this Schedule applies shall be examined by a Medical officer within 15 days of his first employment. Such examination shall include skin test for dermatoses and detection of anthrax bacillus from local lesion by gram stain. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical officer.

(2) Every employee employed in the said process shall be re-examined by a Medical officer at least once in every 12 calendar months and such re-examination shall, wherever the Medical officer considers appropriate, include tests as specified in sub-paragraph (1).

(3) The Medical officer after examining an employee, shall issue a certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under subparagraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Medical officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re- employed or permitted to work in the said processes unless the Medical officer, after further examination, again certifies him fit for employment in those processes.

#### SCHEDULE X

#### Painting, Powder Coating and Process Incidental thereto

(see rule 81)

**1. Application.**-The provisions of this schedule shall apply to all factories or parts of factories in which Painting, Powder Coating and incidental processes is carried on.

**2. Definitions.**-For the purposes of this Schedule.-

- (a) "Powder Coating" means electrostatic spray deposition of dry powder on to the surface of the substrate; and
- (b) "painting" includes varnishing, lacquering and incidental processes.

**3. Ventilation.**-(1) Adequate ventilation arrangements shall be provided and maintained at all times in the process area referred in paragraph (1) where dangerous or toxic or flammable or explosive dust, fumes and vapours could be present. These arrangements shall ensure that concentrations, which are either harmful or could result in fire or explosion, are not permitted to be built up in the work environment.

(2) No person shall be required or allowed to work inside the chamber or booth unless he is provided with suitable breathing apparatus capable of continuous supply of fresh air.

(3) No process or work shall be carried on in such a manner as to cause risk of bodily injury to the persons employed.

**4. Position of spray operators.**-Arrangement shall, as far as practicable, be made so as to render it unnecessary for the person operating the spray to be in a position between a ventilating outfit and the article being sprayed.

**5. Precautions against ignition.**-Wherever there is danger of fire or explosion from accumulation of flammable or explosive dust, fumes or vapours in air:-

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(c) employees shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited ;

(e) transmission belts with iron fasteners shall not be used; and

(f) all other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks overheated surfaces of machinery or plant, chemical or physical chemical reaction and radiant heat.

**6. Washing facilities.**—There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed

(a) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 61 centimeters for every ten persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 61 centimeters ; or

(b) at least one wash-basin for every ten such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material, and clean towels

**7. Food, drinks, etc., prohibited in work-rooms.**—No food, drink, pan and supari or tobacco shall be brought into or consumed by any employee in any work room or shed in which any process specified in paragraph 2 is carried on and no person shall remain in any such room during intervals for meals or rest.

**8. Medical facilities and records of examination and tests.**—(1) The occupier of every factory to which the schedule applies, shall,—

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator;

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a);

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in any of the processes to which this Schedule applies shall be examined by a Medical practitioner within fifteen days of his first employment. No employee shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Medical practitioner.

(4) Every employee employed in the said processes shall be re-examined by a Medical practitioner at least once in every 12 calendar months.

**9. Prohibition relating to Pregnant Women.**— No pregnant women shall be employed or permitted to work in the process area wherein painting or powder coating process is carried on.

#### SCHEDULE XI

#### Graphite Powdering

(see rule 81)

**1. Application.**—The provisions of this schedule shall apply to all factories or parts of factories in which the grinding and sieving of graphite and the processes incidental thereto are carried on.

**2. Medical certificates and examinations.**— (1) No person shall be employed in any factory for more than fifteen days in the year upon any of the operations specified in paragraph 1 above unless a special certificate of fitness in **FORM XXIII**, granted to him by a Medical Officer, is in the custody of the Occupier of the factory.

(2) The Inspector-cum-Facilitator may require that any person in respect of whom a certificate referred to in sub-paragraph (1) has been granted shall carry with him while at work a token giving reference to such certificate.

(3) Every person so employed shall be medically examined by a Medical Officer at intervals of not more than six months and a record of such examination shall be entered in the special certificate granted under sub-paragraph (1).

(4) if at any time a Medical Officer is of opinion that any person is no longer fit for employment upon any of the operations specified in paragraph 1 above he shall cancel the special certificate of fitness granted to that person.

(5) No person whose special certificate of fitness has been can-celled shall be employed upon any of the operations specified in paragraph 1 above unless a Medical Officer again certifies him to be fit.

**3. Exhaust draught.**-Provisions shall be made for removing the dust produced in any of the operations specified in paragraph 1 above by means of an efficient exhaust draught so contrived as to operate on the dust as closely to the point of origin as possible:

Provided that where the provision of an exhaust draught is not reasonably practicable the Inspector-cum-Facilitator may require

(a) respirators of a type approved by him to be provided and maintained in a clean and efficient condition by the occupier and worn by every person working under such conditions ; and

(b) the damping of floors, apparatus and material to prevent the raising of dust.

**4. Floor and work benches.**-(1) The floor of every room in which any person is employed upon any of the operations specified in paragraph 1 above shall be of cement or other impervious material.

(2) The top of every work-bench in every such room shall be of impervious material.

(3) The said floors and work-benches shall be kept clean and in good condition.

(4) The Inspector-cum-Facilitator may, by order in writing, require the said floors and work-benches to be kept wet in such manner as he may deem suitable, in order to reduce dust.

**5. Washing facilities.**- The occupier shall provide and maintain in a clean state and in good repair for the use of persons employed upon any of the operations specified in paragraph 1 above either (a) a trough with smooth impervious surface fitted with a waste-pipe without plug, and of sufficient length to allow at least 61 centimeters for every five such persons employed at any one time and having a constant supply of water, from taps or jets above the trough at intervals of not more than 61 centimeters, or (b) at least one lavatory basin for every five such persons employed at any one time, fitted with a waste pipe and plug having a constant supply of water, together with, in either case a sufficient supply of nail brushes, soap or other suitable cleaning material and clean towels.

**6. Food, drink, and tobacco.**-No food, drink, pan and supari or tobacco shall be brought into, or consumed, in any room in which any person is employed upon any of the operations specified in paragraph 1 above.

**7. Protective equipments.**-Adequate protective clothing, such as over-alls in a clean condition and dust masks shall be provided by the occupier to every person employed upon any of the operations specified in paragraph 1 above.

**8. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any of the operations specified in paragraph 1.

## SCHEDULE XII

### Printing Press and Type Foundries - Certain Lead Process carried on therein

(see rule 81)

**1. Definitions.**-In these regulations - (1)'Lead material' means material containing not less than 5 Percent of lead.

(2) 'Lead process' means

(a) the melting of lead or any lead material for casting and mechanical composing;

(b) the recharging of machines with used lead material; or

(c) any other work including removal of dross from melting pots, cleaning of plungers ; and

(d) Manipulation, movement or other treatment of lead material.

(3) 'Efficient exhaust draught' means localized ventilation effected by heat or mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove gas, vapour, fume or dust at the point where they originate.

**2. Exhaust draught.**-None of the following process shall be carried on except with an efficient exhaust draught:

(a) melting lead material or slugs ;

(b) heating lead material so that vapour containing lead is given off ; or

unless carried on in such a manner as to prevent free escape of gas, vapour, fumes or dust into any place in which work is carried on ; or

unless carried on in electrically heated and thermostatically controlled melting pots.

Such exhaust draught shall be effected by mechanical means and so contrived as to operate on the dust, fume, gas or vapour given off as closely as may be at its point of origin.

**3. Separation of certain processes.**-Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another and from any other process:

- (a) melting of lead or any lead material;
- (b) casting of lead ingots ;
- (c) mechanical composing.

**4. Container for dross.**-A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the work-room near the machine except when the dross is being deposited therein.

**5. Floor of workroom.**-The floor of every work- room where lead process is carried on shall be

- (a) of cement or similar material so as to be smooth and impervious to water;
- (b) maintained in sound condition ; and
- (c) shall be cleansed throughout daily after being thoroughly damped with water at a time when no other work is being carried on at the place.

**6. Mess room.**-There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mess -room which shall be furnished with sufficient tables and benches.

**7. Washing facilities.**-There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process,

- (a) a wash place with either
  - (i) a trough with smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 61 centimeters for every five such persons employed at any one time and having a constant supply of water from taps or jets above the trough at intervals of not more than 61 centimeters , or
  - (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available ; and
- (b) a sufficient supply of clean towels made of suitable material renewed daily with a sufficient supply of soap or other suitable cleaning material.

**8. Medical facilities and records of examination and tests.**-(1) The occupier of every factory to which the schedule applies, shall

- (a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and
- (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**9. Medical Examination by Medical Officer.**-(1) Every employee employed in a lead process shall be examined by a Medical Officer within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, Aminolevulinic Acid in urine, hemoglobin, stippling of cells and steadiness tests. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical Officer at least once in every six calendar months. Such re- examination shall, wherever the Medical Officer considers appropriate, include tests as specified in sub-paragraph (1).

(3) The Medical Officer after examining an employee, shall issue certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in

the custody of the Occupier of the Factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re- employed or permitted to work in the said process unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**10. Food, drinks, etc., prohibited in work rooms.**-No food, drink, pan and supari or tobacco shall be consumed or brought by any employee into any work-room in which any lead process is carried on.

**11. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any lead process.

#### SCHEDULE XIII

#### Cashew-Nut Processing

(see rule 81)

**1. Application.**-The provisions of this schedule shall apply to all factories in which roasting, scrubbing or shelling of cashew-nuts or extracting oil from cashew- nuts or cashew-nuts shells is carried on.

**2. Protective clothing and equipment.**-The occupier shall provide and maintain --

(i) for the use of all persons employed in roasting or scrubbing of cashew-nuts or extracting oil from cashew-nuts or cashew- nuts shells

(a) suitable rubber or washable leather gloves,

(b) suitable impervious aprons with sleeves to cover the body down to the knees and shoulders, and

(c) suitable foot-wear to afford protection to the feet and legs against cashew-nut oil ;

(ii) for the employees employed in cashew- nut shelling, either,

(a) protective ointment containing 10 per cent of shellac, 55 percent of alcohol, 10 per cent. of sodium perborate, 5 percent of carbitol and 20 percent of talc, or

(b) a sufficient quantity of kaolin and coconut oil ; and

(iii) any other material or equipment which the Chief Inspector-cum-Facilitator may deem to be necessary for the protection of the employees.

**3. Use of protective clothing and equipment.**-Every person employed in the processes specified in paragraph 1, shall make use of the protective clothing and equipment supplied and arrangement shall be made by the occupier to supervise their maintenance and cleanliness.

**4. Disposal of shells, ashes or oil of cashew-nut.**-(i) Shells, ashes or oil of cashew-nut shall not be stored in any room in which employees are employed and shall be removed atleast twice a day to any pit or enclosed place in the case of shells and ashes and to closed containers kept in a separate room in the case of oil.

(ii) No employee shall be allowed to handle shells or oil of cashew-nut without using the protective measures provided in paragraph 3.

**5. Floors of work-rooms.**-The floor of every work-room in which the processes specified in paragraph 1 are carried on shall be of a hard material so as to be smooth and impervious and of even surface and shall be cleaned daily ; and spillage of any cashew- nut oil in any work-room shall be washed with soap and cleaned immediately.

**6. Seating accommodation.**-Employees engaged in shelling of cashew-nuts shall be provided with adequate seats of work benches which shall be cleaned daily.

**7. Mess-room.**-(a) There shall be provided and maintained for the use of all persons employed in the processes specified in paragraph 1, a suitable rest room furnished with a sufficient number of tables and chairs or benches ;

(b) Separate lockers shall be provided where food, etc., shall be stored by employees before it is consumed in the rest room.

**8. Food, drinks, etc., prohibited in work-rooms.**-No food, drink, pan, supari or tobacco shall be brought or consumed by any employee in any room in which the processes specified in paragraph 1 are carried out and no person shall remain in any such room during intervals for meals or rest.

**9. Washing facilities.**-Where roasting, scrubbing and shelling of cashew-nuts or extracting oil from cashew-nuts or cashew-nuts shells is carried on, there shall be provided and maintained, in clean and good repair, washing facilities, at the scale of one tap or stand pipe for every ten employees the taps or stand pipes being spaced not less than 4 feet apart and also a sufficient supply of soap, coconut oil, nail brushes and towels.

**10. Time allowed for washing.**-Before each meal and before the end of the day's work at least ten minutes, in addition to the regular meal times, shall be allowed to any person employed in the process specified in paragraph 1, for the purpose of washing.

**11. Smoke or gas produced by roasting cashew-nuts.**-Where smoke or gas is produced in the operation of roasting, provision shall be made for removing the smoke or gas through a chimney of sufficient height and capacity or by such other arrangements as may be necessary to prevent the gas or smoke from escaping into the air or any place in which employees are employed.

**12. Storage of protective equipment.**-A suitable room or a portion of the factory suitably partitioned off, shall be provided exclusively for the storage of all the protective equipment supplied to the employees and no such equipment shall be stored in any place other than the room or place so provided.

**13. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified Medical Practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the Medical Practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The said Medical Practitioner shall inspect daily the hands and feet of all the persons employed in the process specified in paragraph 1.

(3) The record of such examinations carried out by the Medical Practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(4) The first-aid box maintained shall also contain Burrough's Solution (1:20) and aqueous solution of tannic acid (10%) for treatment of cases of dermatitis.

**14. Medical Examination by Medical Officer.**-(1) Every employee employed in the processes specified in paragraph (1) shall be examined by a Medical Officer within 15 days of his first employment. Such examinations shall include skin test for dermatitis and no employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical Officer at least once in every three calendar months. Such examinations shall, wherever the Medical Officer considers appropriate, include asking test for dermatitis.

(3) The Medical Officer after examining an employee, shall issue a certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of employee, he shall make a record of his findings in the said certificate and the Health Register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.



(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**15. Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work in any of the processes specified in paragraph 1 except in shelling of roasted cashew-nuts.

#### SCHEDULE XIV

#### **Dyeing, Stenciling, Printing and Incidental Processes**

(see rule 81)

**1. Application.-**These provisions shall apply to any factory or such parts of any factory in which dyeing, stenciling, printing and incidental processes is carried on.

**2. Ventilation.-**(1) Adequate ventilation arrangements shall be provided and maintained at all times in the process area referred in clause (1) where dangerous or toxic or flammable or explosive dust, fumes and vapours could be present. These arrangements shall ensure that concentrations, which are either harmful or could result in fire or explosion, are not permitted to be built up in the work environment.

(2) No process or work shall be carried on in such a manner as to cause risk of bodily injury to the persons employed.

**3. Protective measures.-**(1) The occupier shall provide free of cost and maintain in a good condition for use of all persons engaged in the operations specified in clause 1;

(a) suitable rubber gloves of durable quality for both hands;

(b) rubber boots of durable quality for both legs ;

(c) goggles, apron and;

(d) any other material or appliance which in the opinion of the Chief Inspector-cum-Facilitator shall be necessary for the protection of employees.

(2) All persons engaged in any of the operations specified in clause 1, shall while at work in those processes, make use of the materials and appliances provided under sub-clause (1).

**4. Precautions against ignition.-**Wherever there is danger of fire or explosion from accumulation of flammable or explosive dust, fumes or vapours in air:-

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of there being a source of ignition;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(c) Employees shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited ;

(e) transmission belts with iron fasteners shall not be used; and

(f) all other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks overheated surfaces of machinery or plant, chemical or physical chemical reaction and radiant heat.

**5. Food and drink.-**No food or drink shall be brought into or consumed in, in any room in which any of the operations specified in clause 1 is carried on.

**6. Floor of work-rooms.-**The floor of every room in which any of the operations specified in clause 1 is carried on shall be

(a) of cement or similar material so as to be smooth and impervious to water ;

(b) maintained in sound condition; and

(c) provided with suitable and adequate arrangement for drainage.

**7. Washing facilities.-**(i) The occupier shall provide and maintain for the use of all persons employed in operations specified in clause 1, suitable washing facilities consisting of :

(a) a masonry or steel water tank capable of holding sufficient water and having taps at the rate of one tap for every ten persons employed at any one time, the floor around the tank and below the taps being cement plastered and maintained in

sound and clean condition and suitable and adequate arrangements for drainage being provided around the tanks and the taps ;

(b) sufficient supply of nail brushes, non-irritable soap or other suitable cleansing materials and clean towels.

(ii) The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.

(iii) The following method shall be adopted in removing dye from the hands of employees and the occupier shall make readily available in the premises of the factory all the chemicals required for the purpose in the specified proportion:

(a) wash with sulphonated oil followed by water ;

(b) wash in 1 to 2000 solution of potassium permanganate;

(c) wash in two per cent. solution of sodium hydrosulphite or in two percent solution of sodium bisulphite;

(d) wash in water; and

(e) application of lanolim cream.

Note : No person shall be allowed to use turpentine, petroleum, distillates, bleaching powder and other bleaches for removing dirt and dye from his hands.

**8. Medical examination.**-(1) Every person employed in any of the operations specified in clause 1 shall be medically examined by a Medical Officer within fifteen days of his first employment in such operations and thereafter shall be examined by the Medical Officer at intervals of not more than twelve months and a record of such examinations shall be entered by the Medical Officer in the Health Register in **FORM XXIV**.

(2) A Health Register in **FORM XXIV** containing the names of all persons employed in the operations specified in clause 1 shall be kept.

(3) No person after suspension shall be employed unless the Medical Officer after re-examination again certifies him to be fit for employment.

Explanation: 'Suspension' means suspension from employment in any of the operations specified in clause 1 by written certificate in the Health Register signed by the Medical Officer who shall have power to suspend any person employed in any such operation.

**9. Dermatitis.**-(i) The occupier shall make arrangements to give suitable jobs to employees affected by chronic dermatitis;

(ii) The occupier shall notify to the Medical Officer all cases of dermatitis.

**10. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any of the operations specified in clause 1.

#### SCHEDULE XV

##### Pottery

(see rule 81)

#### 1. Definitions.-For the purposes of this Schedule

(a) 'pottery' includes earthenware, stoneware, porcelain, china tiles and any other articles made from clay or from a mixture containing clay, any other materials such as quartz, flint, feldspar and gypsum.

(b) 'efficient exhaust draught' means localized ventilation effected by mechanical or other means, for the removal of dust or fume so as to prevent it from escaping into the air or any place in which work is carried on. No draught shall be deemed efficient which fails to remove effectively dust or fume generated at the point where dust or fume originates;

(c) 'fettling' includes scalloping, towing, sand papering, sand sticking, brushing or any other process of cleaning of pottery-ware in which dust is given off ;

(d) 'leadless glaze' mean a glaze which does not contain more than one percent of its dry weight of a lead compound calculated as lead monoxide ;

(e) 'low solubility glaze' means a glaze which does not yield to dilute hydrochloric acid more than five per cent. of its dry weight of a soluble lead compound calculated as lead monoxide when determined in the manner described below: —

A weighed quantity of the material which has been dried at 100°C and thoroughly mixed shall be continuously shaken for one hour at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent. by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate;

(f) 'ground or powdered flint or quartz' does not include natural sands ;

(g) 'potter's shop' includes all places where pottery is fired by pressing or by any other process and all places where shaping, fettling or other treatment of pottery articles prior to placing for the biscuit fire is carried on.

**2. Efficient exhaust draught.**-The following processes shall not be carried on without the use of an efficient exhaust draught:

(i) All processes involving the manipulation or use of a dry and unfritted lead compound;

(ii) The fettling operations of any kind, whether on green ware or biscuit, provided that this shall not apply to the wet fettling, and to the occasional finishing of pottery articles without the aid of mechanical power;

(iii) The sifting of clay dust or any other material for making tiles or other articles by pressure, except where

(a) this is done in a machine so enclosed as to effectively prevent the escape of dust ; or

(b) the material to be sifted is so damp that no dust can be given off ;

(iv) The pressing of tiles from clay dust, an exhaust opening being connected with each press ; this clause shall also apply to the pressing from clay dust of articles other than tiles, unless the material is so damp that no dust is given off ;

(v) (a) The fettling of tiles made from clay dust, by pressure. except where the fettling is done wholly on, or with, damp material;

(b) The fettling of other articles made from clay dust, unless the material is so damp that no dust is given off;

(vi) The process of loading and unloading of saggars, where handling and manipulation of ground and powdered flint, quart, alumina or other materials are involved ;

(vii) The brushing of earthenware biscuit, unless the process is carried on in a room provided with efficient general mechanical ventilation or other ventilation which is certified by the Inspector-cum-Facilitator as adequate, having regard to all the circumstances of the case ;

(viii) Fettling of biscuit ware which has been fired in powdered flint or quartz except where this is done in machines so enclosed as to effectively prevent the escape of dust;

(ix) Ware cleaning after the application of glaze by dipping or other process;

(x) Crushing and dry grinding of materials for pottery bodies and saggars, unless carried on in machines so enclosed as to effectively prevent the escape of dust or is so damp that no dust can be given off ;

(xi) Sieving or manipulation of powdered flint, quartz, day grog or mixture of these materials unless it is so damp that no dust can be given off ;

(xii) Grinding of tiles on a power- driven wheel unless an efficient water spray is used on the wheel ;

(xiii) Lifting and conveying of materials by elevators and conveyors unless they are effectively enclosed and so arranged as to prevent escape of dust into the air in or near any place in which persons are employed ;

(xiv) The preparation or weighing out of flow material, awning of dry colours, colour dusting and colour blowing;

(xv) Mould making, unless the bins or similar receptacles are used for holding plaster of paris and provided with suitable covers;

(xvi) The manipulation of calcined materials unless the material has been made and remain so wet that no dust is given off.

**3. Certain processes to be carried on so as to secure effective separation from one another.**-Each of the following processes shall be carried on in such a manner and under such conditions so as to secure effectual separation from one another, and from wet processes:

(a) Crushing and by grinding or sieving of materials, fettling, pressing of tiles, drying clay and green ware, loading and unloading of saggars; and

(b) all processes involving the use of a dry lead compound.

**4. Restriction on the use of glaze.**-No glaze which is not a leadless glaze or a low solubility glaze shall be used in a factory in which pottery is manufactured.

**5. Potter's wheel.**-The potter's wheel (Jolly and Jigger) shall be provided with screens or so constructed as to prevent clay scrapings being thrown off beyond the wheel.

**6. Prevention of dust.**-(1) All practical measures shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.

(2) Damp saw dust or other suitable materials shall be used to render the moist method effective in preventing dust rising into the air during the cleaning process which shall be carried out after work has ceased.

**7. Floors.**-The floors of potters' shops, slip houses, dipping houses and ware cleaning rooms shall be hard, smooth and impervious and shall be thoroughly cleaned daily by a moist method by an adult male.

**8. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory in which manufacture of pottery is carried on, shall --

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**9. Medical Examination by Medical Officer.**-(1) Every employee employed in any process mentioned under paragraph 2, shall be examined by a Medical Officer within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, hemoglobin content, stippling of cells and pulmonary function test and chest X-ray for employees engaged in processes mentioned in clauses (i) and (xiv) of paragraph 2 and pulmonary function tests and chest X-rays for the others. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) All persons employed in any of the processes included under sub-paragraph 2 (i) and (xiv) shall be examined by a Medical Officer once in every three calendar months. Those employed in any other processes mentioned in the remaining sub-paragraphs of paragraph 2 shall be examined by a Medical Officer once in every twelve calendar months. Such examinations in respect of all the employees shall include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in three years

(3) The Medical Officer, after examining an employee, shall issue certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory.

The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process, shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**10. Protective equipment.**-(1) The occupier shall provide and maintain suitable overalls and head coverings for all persons employed in any process specified in paragraph 2.

(2) The occupier shall provide and maintain suitable aprons of water-proof or similar material, which can be sponged daily for the use of the dippers, dippers' assistants, throwers, jolly employees, casters, mould makers and filter press and pug mill employees.

(3) Aprons provided in pursuance of sub- paragraph (2) shall be thoroughly cleaned daily by the wearers by sponging or other wet process. All overalls and head coverings shall be washed, cleaned and mended atleast once a week and the occupier shall provide facilities for such washing, cleaning and mending.

(4) No person shall be allowed to work in emptying sacks of dusty materials, weighing out and mixing of dusty materials and charging of ball mills and blungers without wearing a suitable and efficient dust respirator.

**11. Washing facilities.**—The occupier shall provide and maintain, in a cleanly state and in good repair for the use of all persons employed in any of the processes specified in paragraph 2 a wash place under cover with --

(a) either a trough with smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow atleast 60 centimeters for every five such persons employed at any one time, and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60 centimeter ; or

atleast one tap or stand pipe for every five such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.22 meters apart ; and

(b) a sufficient supply of clean towels made of suitable materials changed daily, with sufficient supply of nail brushes and soap.

**12. Time allowed for washing.**— Before each meal and before the end of the day's work at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in any of the processes specified in paragraph 2.

**13. Mess-room.**—(1) There shall be provided and maintained for use of all persons remaining within the premises during the rest intervals, a suitable and an adequate mess room providing accommodation at the rate of 0.93 square meters per head and furnished with the following, namely:

(i) a sufficient number of tables and chairs or benches with back rests ;

(ii) arrangements for washing utensils;

(iii) adequate means for warming food ; and

(iv) adequate quantity of drinking water.

(2) The room shall be adequately ventilated by the circulation of fresh air and placed under the charge of a responsible person and shall be kept clean.

**14. Food drinks, etc., prohibited in work- rooms.**—No food, drink, pan and supari or tobacco shall be brought into, or consumed by any employee in any work-room in which any process specified in paragraph 2 is carried on and no person shall remain in any such room during intervals for meals or rest.

**15. Cloak-room, etc.**— There shall be provided and maintained for the use of all persons employed in any process specified in paragraph 2

(a) a cloak-room for clothing put off during working hours and such accommodation shall be separate from any mess room; and

(b) separate and suitable arrangements for the storage of protective equipment provided under paragraph 10.

**16. Savings.**—Nothing contained in this Schedule shall apply to a factory in which any of the following articles, but no other article of pottery are made:

(a) unglazed or salt glazed bricks and tiles ; and

(b) Architectural terra-cotta made from plastic clay and either unglazed or glazed with leadless glaze only.

**17. Prohibition relating to Pregnant Women.**— No pregnant women shall be employed or permitted to work in any of the operations specified in paragraph 2 are carried on.

#### SCHEDULE XVI

#### Chemical Works

(see rule 81)

#### PART I

**1. Application.**—This schedule shall apply to all manufacture and processes incidental thereto carried on in chemical works.

**2. Definition.**—For the purpose of this Schedule

(a) "chemical works" means any factory or such parts of any factory as are listed in Appendix 'A' to this schedule;

(b) "efficient exhaust draught" means localized ventilation effected by mechanical or other means for the removal of gas, vapour, fume or dust to prevent it from escaping into the air of any place in which work is carried on;

(c) "bleaching powder" means the bleaching powder commonly called chloride of lime ;

(d) "chlorate" means chlorate or perchlorate;

- (e) "caustic" means hydroxide of potassium or sodium;
- (f) "chrome process" means the manufacture of chromate or bi-chromate of potassium or sodium, or the manipulation, movement or other treatment of these substances;
- (g) "nitro or amino process" means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologues and the making of explosives with the use of any of these substances;
- (h) the term 'permit to work' system means the compliance with the procedures laid down under paragraph 20 of Part II ;
- (i) "toxic substances" means all those substances which when they enter into the human body, through inhalation or ingestion or absorption through skin in sufficient quantities cause fatality or exert serious affliction of health or chronic harmful effects on the health of persons exposed to it due to its inherent chemical or biological effects in respect of substances whose TLV is specified in **rule 97**, exceeding the concentration specified therein would make the substance toxic ;
- (j) "emergency" means a situation or condition leading to a circumstance or set of circumstances in which there is danger to the life or health of persons or which could result in big fire or explosion or pollution to the work and outside environment, affecting the employees or neighborhood in a serious manner, demanding immediate action;
- (k) "dangerous chemical reactions" means high speed reactions, run-away reactions, delayed reactions, etc., and are characterized by evolution of large quantities of heat, intense release of toxic or flammable gases or vapors, sudden pressure build-up, etc;
- (l) "manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using, etc. ;
- (m) "approved personal protective equipment" means items of personal protective equipment conforming to the relevant BIS specifications or in the absence of it, personal protective equipment approved by the Chief Inspector-cum-Facilitator;
- (n) "appropriate personal protective equipment" means that when the protective equipment is used by the employee, he shall have no risk to his life or health or body ; and
- (o) "confined space" means any space by reason of its construction as well as in relation to the nature of the work carried therein and where hazards to the persons entering into or working inside exist or are likely to develop during working.

## PART II

### General Requirements

Applying to all the works in Appendix 'A'

**1. House keeping.**-(1) Any spillage of materials shall be cleaned up before further processing.

(2) Floors, platforms, stairways, passages and gangways shall be kept free of any obstructions.

(3) There shall be provided easy means of access to all parts of the plant to facilitate cleaning.

**2. Improper use of chemicals.**-No chemicals or solvents or empty containers containing residual chemicals, solvents or vapours shall be permitted to be used by employees for any purposes other than in the processes for which they are supplied.

**3. Prohibition on the use of food, etc.,**-No food, drink, tobacco, pan or any edible item shall be stored or heated or consumed on or near any part of the plant or equipment.

**4. Cautionary notices and instructions.**- (1) Cautionary notices in a language understood by the majority of employees shall be prominently displayed in all hazardous areas drawing the attention of all employees about the hazards to health, hazards involving fire and explosion and any other hazard such as consequences of testing of material or substances used in the process or using any contaminated container for drinking or eating, to which the employees' attention should be drawn for ensuring their safety and health.

(2) In addition to the above cautionary notice, arrangement shall be made to instruct and educate all the employees including illiterate employees about the hazards in the process including the specific hazards to which they may be exposed to, in the normal course of their work. Such instructions and education should also deal with the hazards involved in unauthorized and unsafe practices including the properties of substances used in the process under normal conditions as well as abnormal conditions and the precautions to be observed against each and every hazard. Further, an undertaking from the employees shall be obtained within one month of their employment, to the effect that they have read the contents of the cautionary notices and instructions, understood them and would abide by them. The training and instructions to all employees and all supervisory personnel shall include the significance of different types of symbols and colors used on the labels struck or painted on the various types of containers and pipelines.

**5. Evaluation and provisions of safeguards before the commencement of process.**-(1) Before commencing any process or any experimental work, or any new manufacture covered under Appendix 'A', the occupier shall take all possible

steps to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions including the dangerous chemical reactions. The properties of the raw materials used, the final products to be made, and any by-products derived during manufacture, shall be carefully studied and provisions shall be made for dealing with any hazards including effects on employees, which may occur during manufacture.

(2) Information in writing giving details of the process, its hazards and the steps taken or proposed to be taken from the design stage to disposal stage for ensuring the safety as in sub-paragraph (1) above should be sent to the Chief Inspector-cum-Facilitator at the earliest but in no case less than 15 days before commencing manufacture, handling, or storage of any of items covered under Appendix 'A' whether on experimental basis, or as pilot plant or as trial production, or as large-scale manufacture.

(3) The design, construction, installation, operation, maintenance and disposal of the buildings, plant and facilities shall take into consideration effective safeguards against all the safety and health hazards so evaluated.

(4) The requirements under the sub-paragraphs (1) to (3) shall not ad in lieu of or in derogation to, any other provisions contained in any Act governing the work.

**6. Authorised entry.**-Authorised persons only shall be permitted to enter any section of the factory or plant where any dangerous operations or processes are being carried on or where dangerous chemical reactions are taking place or where hazardous chemicals are stored.

**7. Examination of instruments and safety devices.**-(1) All instruments and safety devices used in the process shall be tested before taking into use and after carrying out any repair to them and examined once in a month, by a qualified person and once in every six months, by a competent person. Records of such tests and examinations shall be maintained in a register.

(2) All instruments and safety devices used in the process shall be operated daily or as often as it is necessary, to ensure its effective and efficient working at all times.

**8. Electrical Installations.**-All electrical installations used in the process covered in Appendix 'A' shall be of an appropriate type to ensure safety against the hazard prevalent in that area such as suitability against dust, dampness, corrosion, flammability and explosion, etc., and shall conform to the relevant ISI specifications governing their construction and use for that area.

**9. Handling and storage of chemicals.**-(1) The containers for handling and storage of chemicals shall be of adequate strength taking into consideration the hazardous nature of the contents. They shall also be provided with adequate labeling and colour coding arrangements to enable identification of the containers and their contents indicating the hazards and safe handling methods and shall conform to the respective BIS standards. The instructions given in the label shall be strictly adhered to. Damaged containers shall be handled only under supervision of a knowledgeable and responsible person and spillage shall be rendered innocuous in a safe manner using appropriate means.

(2) The arrangements for the storage of chemicals including charging of chemicals in reaction vessels and containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in rule 97.

(3) Without prejudice to the generality of the requirements in sub-paragraph (2) above, the arrangements shall have suitable ventilation facilities and shall enable the maintenance of safe levels in vessels and containers. Such arrangements shall also take into consideration, the type of flooring and the capacity of flooring and the compatibility requirements of substances with other chemicals stored nearby.

(4) (a) Storage of chemicals and intermediate products, which are highly unstable or reactive or explosive shall be limited to the quantities required for two months use.

(b) Whenever the quantities laid down in the above clause (a) are to be exceeded, the permission of the Chief Inspector-cum-Facilitator shall be obtained.

(c) Notwithstanding anything contained in clauses (a) and (b) above, the Chief Inspector-cum-Facilitator may direct any factory carrying out processes covered in Appendix 'A' to further limit the storage of hazardous substances to quantities less than two months on considerations of safety.

(5) Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the standby storage facility if any defect develops in any of the containers resulting in the release of toxic substances.

(6) Any storage facility constructed using non-metallic material such as Fiber glass Reinforced Plastics (FRP), all glass vessels, etc., shall have adequate strength to withstand the stress, if any, exerted by the contents and shall be properly anchored. Working platforms, access ladders, pipe lines, etc., used in such storage facility shall not have any support on the structure of the storage facility and shall be independently supported.

**10. Facility for isolation.**-The plant and equipment shall be so constructed and maintained as to enable quick isolation of plant or part of plant or equipment, with appropriate indication. One copy of the layout plan indicating the isolation facilities shall always be available with the security personnel, the maintenance and the Health and Safety personnel and these isolation facilities shall be checked for its effectiveness once in a month.

**11. Personal protective equipment.**-(1) All employees exposed to the hazards in the processes covered by this schedule shall be provided with appropriate and approved type of personal protective equipment. Such equipment shall be in a clean, sterile and hygienic condition before issue.

(2) The occupier shall arrange to inform, educate and supervise all the employees in the use of personal protective equipment while carrying out the job.

(3) As regards any doubt regarding the appropriateness of any personal protective equipment, the decision of the Chief Inspector-cum-Facilitator will be final.

**12. Alarm systems.**-(1) Suitable alarm and effective alarm systems giving audible and visible indications, shall be installed at the control room as well as in all strategic locations where process control arrangements are available so as to enable corrective action to be taken before the operational parameters exceed the predetermined safe levels or lead to conditions conducive for an outbreak of fire or explosion to occur. Such alarm systems shall be checked daily and tested every month at least once to ensure its performance efficiency at all times.

(2) The Chief Inspector-cum-Facilitator may direct such systems to be installed in case of plants or processes where toxic materials are being used and spillage or leakage of which may cause widespread poisoning in or around the plant.

**13. Control of escape of substances into the work atmosphere.**-(1) Effective arrangements such as enclosure, or by-pass or efficient exhaust draught, maintenance of negative pressure, etc., shall be provided in all plants, containers, vessels, sewers, drains, flues, ducts, culverts and buried pipes and equipments, to control the escape and spread of substances which are likely to give rise to fire or explosion or toxic hazards during normal working and in the event of accident or emergency.

(2) In the event of the failure of the arrangements for control resulting in the escape of substances in the work atmosphere immediate steps shall be taken to control the process in such a manner, that further escape is brought down to the safe level.

(3) The substances that would have escaped into the work atmosphere before taking immediate steps as required in subparagraph (2), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitably treating the substances.

(4) The level of concentration of toxic substances in the work atmosphere shall be monitored by suitable devices and shall not exceed the permissible levels specified in rule 97.

**14. Control of dangerous chemical reactions.**-Suitable provisions, such as automatic and or remote control arrangements, shall be made for controlling the effects of "dangerous chemical reactions". In the event of failure of control arrangements automatic flooding or blanketing or other effective arrangements shall come into operation.

**15. Testing, examination, repair and maintenance of plant and equipment.**-(1) All parts of plant, equipment and machinery used in the process which in the likely event of their failure may give rise to an emergent situation shall be tested by a competent person before commencing process and retested at an interval of two years or after carrying out repairs to it. The competent person shall identify the parts of the plant, equipment and machinery required to be tested as aforesaid and evolve a suitable testing procedures. In carrying out the test as mentioned above in respect of pressure vessels or reaction vessels the following precautions shall be observed, namely:

(a) before the test is carried out, each vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrosion and foreign matter. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion, if such sludge is of pyrophoric nature or contains spontaneously combustible chemicals;

(b) as soon as the test is completed, the vessel shall be thoroughly dried internally and shall be clearly stamped with the marks and figures indicating the person by whom testing has been done and the date of test ; and

(c) any vessel which fails to pass the test or which for any other reason is found to be unsafe for use shall be destroyed or rendered unusable under intimation to the Chief Inspector-cum-Facilitator.

(2) All parts of plant, equipment, machinery which in the likely event of failure may give rise to an emergent situation shall be examined once in a month by a qualified person and tested by a competent person once in every six months.

(3) Records of testing and examination referred to in paragraphs (1) and (2) shall be maintained as long as that part of the plant, equipment and machinery are in use.

(4) All repair work including alteration, modification and addition to be carried out to the plant, equipment and machinery shall be done under the supervision of a qualified person who shall evolve a procedure to ensure safety and health of persons doing the work. When repairs or modification is done on pipelines and joints are required to be welded, but welding of joints shall be preferred. Wherever necessary, the qualified person shall regulate the aforesaid work through a 'permit to work system'.

(5) No machinery, plant or equipment shall be operated or maintained in such a manner as to cause risk of bodily injury.



**16. Staging.**-(1) All staging that is erected for the purpose of maintenance work or repair work or for work connected with entry into confined spaces and used in the processes included in Appendix 'A' shall be stable, rigid and constructed out of substantial material of adequate strength. Such staging shall conform to the respective Indian Standard Specifications.

(2) Staging shall not be erected over any closed or open vessel unless the vessel is so constructed and ventilated to prevent exposure of persons working on the stages.

(3) All the staging constructed for the purpose of this paragraph shall have appropriate access which are safe and shall be fitted with proper hand rails to a height of one meter and toe board.

**17. Seating arrangements.**-The seating arrangements provided for the operating personnel working in processes covered in Appendix 'A' shall be located in a safe manner as to prevent the risk of exposure to toxic, flammable and explosive substances evolved in the work environment in the course of manufacture or repair or maintenance, either due to failure of plant and equipment or due to the substances which are under pressure, escaping into the atmosphere.

**18. Entry into or work in confined space.**-(1) The occupier of every factory to which the provision of this schedule apply, shall ensure the observance of the following precautions before permitting any person to enter or work inside the confined spaces:

(a) identify all confined spaces and the nature of hazards that are encountered in such spaces, normally or abnormally and arrange to develop the most appropriate safeguards for ensuring the safety and health of persons entering into or working inside, the confined spaces;

(b) regulate the entry or work inside the confined spaces through a 'permit to work system' which should include the safeguards so developed as required under sub-clause (a) above;

(c) before testing the confined space for entry into or work, the place shall be rendered safe by washing or cleaning with neutralizing agents or purging with steam or inert gases and making adequate forced ventilation arrangements or such measure which will render the confined space safe;

(d) shall arrange to carry out such tests as are necessary for the purpose by a competent person and ensure that the confined space is safe for the persons to enter or work. Such testing shall be carried out as often as is necessary during the course of work to ensure its continued safety;

(e) shall arrange to educate and train the personnel who would be required to work in confined spaces about the hazards involved in the work. He shall also keep in readiness the appropriate and approved personal protective equipment including arrangements for rescue, resuscitation and first aid, and shall arrange supervision of the work at all times by a responsible and knowledgeable person.

(2) The Occupier shall maintain a log of all entry into or work in, confined spaces and such record shall contain the details of persons assigned for the work, the location of the work and such other details that would have a bearing on the safety and health of the persons assigned for this work. The log book so maintained shall be retained as long as the concerned employees are in service and produced to the Inspector-cum-Facilitator when demanded.

**19. Maintenance work, etc.**-(1) All the work connected with the maintenance of plants and equipment including cleaning of empty containers which have held hazardous substances used in the processes covered in this Schedule, shall be carried out under 'permit to work system' employing trained personnel and under the supervision of responsible person, having knowledge of the hazards and precautions required to deal with them.

(2) Maintenance work shall be carried out in such a manner that there is no risk to persons in the vicinity or to persons who pass by. If necessary, the place of such work shall be cordoned off or the presence of unconnected persons effectively controlled.

**20. Permit to work system.**-The permit to work system shall inter alia include the observance of the following precautions while carrying out any specified work to be subjected to the permit to work system.

(a) all work subject to the permit to work system shall be carried out under the supervision of a knowledgeable and responsible person;

(b) all parts of plant or machinery or equipment on which permit to work system is carried out, shall remain isolated from other parts throughout the period of permit to work and the place of work including the parts of plant, machinery shall be rendered safe by cleaning, purging, washing, etc.;

(c) all work subject to the permit to work system shall have pre-determined work procedures which integrate safety with the work. Such procedures shall be reviewed whenever any change occurs in material or equipment so that continued safety is ensured;

(d) persons who are assigned to carry out the permit to work system shall be physically fit in all respects taking into consideration the demands and nature of the work before entering into the confined space. Such person shall be adequately informed about the correct work procedure as well as the precautions to be observed while carrying out the permit to work system;

(e) adequate rescue arrangements wherever considered necessary and adequate first-aid, rescue and resurrection arrangements shall be available in good working condition near the place of work while carrying out the permit to work system, for use in emergency ;

(f) appropriate and approved personal protective equipment shall be used while carrying out the 'permit to work system';

(g) after completion of work subject to the 'permit to work system', the person responsible shall remove all the equipment and tools and restore to the original condition so as to prevent any danger while carrying out regular process.

**21. Safety sampling personnel.**—The occupier shall ensure the safety of persons assigned for collecting samples by instructing them on the safe procedures. Such personnel shall be provided with proper and approved personal protective equipment, if required.

**22. Ventilation.**—Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances could be evolved. These arrangements shall ensure that concentrations, which are either harmful or could result in explosion, are not permitted to be built up in the work environment.

**23. Procedures for meeting emergencies.**—(1) The occupier of every factory carrying out the works covered in Appendix 'A', shall arrange to identify all types of possible emergencies that could occur in the processes during the course of work or while carrying out maintenance work or repair work. The emergencies so identified shall be reviewed every year.

(2) The occupier shall formulate a detailed plan to meet all such identified emergencies including arrangements for summoning outside help for rescue and fire-fighting and arrangements for making available urgent medical facilities.

(3) The occupier shall send the list of emergencies and the details of procedures and plans formulated to meet the emergencies to the Chief Inspector-cum-Facilitator.

(4) The occupier shall arrange to install distinctive and recognizable warning arrangements to caution all persons inside the plant as well as the neighboring community, if necessary, to enable evacuation of persons and to enable the observance of emergency procedures by the persons who are assigned emergency duties. All concerned must be well informed about the warning arrangement and their meaning. The arrangement must be checked for its effectiveness every month.

(5) Alternate power supply arrangements shall be made and inter-locked with the normal power supply system so as to ensure constant supply of power to the facilities and equipment meant for compliance with requirements of paragraphs 10,11,12,13,14,18,22 and this paragraph of Part II, Part III, Part IV and Part V of this Schedule.

(6) The occupier shall arrange to suspend the further process work in a place where emergency is established and shall forthwith evacuate all persons in the area except employees who have been assigned emergency duties.

(7) All the employees of the factory shall be trained about the action to be taken by them including evacuation procedures during emergencies.

(8) All emergency procedures must be rehearsed every three months and deficiencies, if any, in the achievement of the objectives shall suitably be corrected.

(9) The occupier shall arrange to have ten percent of the employees trained in the use of First-Aid Fire Fighting appliances and in the rendering of specific First-Aid measures taking into consideration the special hazards of the particular process.

(10) The occupier shall furnish immediately on request the specific chemical identity of the hazardous substances to the treating physician when the information is needed to administer proper emergency or first-aid treatment to exposed persons.

**24. Danger due to effluents.**—(1) Adequate precautions shall be taken to prevent the mixing of effluents from different processes and operations which may cause dangerous or poisonous gases to be evolved

(2) Effluents which contain or give rise in the presence of other effluents to poisonous gases shall be provided with independent drainage systems to ensure that they may be trapped and rendered safe.

### PART III

#### Fire and Explosions Risks

**1. Source of ignition including lighting installation.**—(1) No internal combustion engine and no electric motor or other electrical equipment and fittings and fixtures capable of generating sparks or otherwise causing combustion or any other source of ignition or any naked light, shall be installed or permitted to be used in the process area where there could be fire and explosion hazards.

(2) All hot exhaust pipes shall be installed outside a building and other hot pipes or hot surface or surfaces likely to become hot shall be suitably protected.

(3) The classification of work areas in terms of its hazard potential and the selection of electrical equipment or other equipment that could constitute a source of ignition shall be in accordance with the respective Indian Standard.

(4) Where flammable atmosphere may be prevalent or could occur, the soles of footwear worn by employees shall have no metal on them, and the wheels of trucks or conveyers shall be conductive type.

(5) All tools and appliances used for work in this area shall be of non-sparking type.

(6) Smoking in process areas where there are risks of fire and explosion shall be prohibited, and warning notices in the language understood by majority of employees shall be posted in the factory prohibiting smoking in the specified areas.

**2. Static Electricity.**-(1) All machinery and plant, particularly pipe lines and belt drives, on which static charge is likely to accumulate, shall be effectively earthed. Receptacles for flammable liquids shall have metallic connections to the earthed supply tanks to prevent static sparking. Where necessary, humidity shall be regulated.

(2) Mobile Tanker-wagons shall be earthed during filling and discharge, precautions shall be taken to ensure that earthing is effective before suck filling or discharge takes place.

**3. Lightning protection.**-Lightning protection arrangement shall be fitted where necessary, and shall be maintained.

**4. Process heating.**-The method of providing heat for a process likely to result in fire and explosion shall be as safe as possible and where the use of naked flame is necessary, the plant shall be so constructed as to prevent any escaping flammable gas, vapour, or dust coming into contact with the flame, or exhaust gases, or other sources likely to cause ignition. Wherever possible, the heating arrangement shall be automatically controlled at a pre-determined temperature below the danger temperature.

**5. Leakage of flammable liquids.**-(1) Provision shall be made to confine by means of suitable bund walls, dykes, sumps, etc., possible leakages from storage vessels containing flammable liquids.

(2) Waste material in contact with flammable substances shall be disposed off suitably under the supervision of knowledgeable and responsible person.

(3) Adequate and suitable fire fighting appliances shall be installed in the vicinity of such vessels.

**6. Safety valves.**-Every still and every closed vessel in which gas is evolved or into which gas is passed, and in which the pressure is liable to rise above the atmospheric pressure, shall have attached to it a pressure gauge and a proper safety valve or other equally efficient means to relieve the pressure. These appliances shall be maintained in good condition.

**7. Installation of pipe lines, etc.**- All pipe lines carrying flammable or explosive substances shall be protected from mechanical damage and shall be examined by a responsible person once in a week to detect any deterioration or defects, or accumulation of flammable or explosive substances, and record kept of any defects found and repairs made.

**8. Fire fighting system.**-(1) Every factory employing 500 or more persons and carrying out processes listed in Appendix 'A' shall provide

(a) Trained and responsible fire fighting squad so as to effectively handle the fire-fighting and life saving equipment in the event of fire or other emergency. Number of persons in this squad will necessarily depend upon the size of risk involved, but in no case shall be less than eight such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pump man and departmental supervisors and operators trained in the operation of fire and emergency services.

(b) Squad leaders shall preferably be trained in a recognised Government institution and their usefulness enhanced by providing residence on the premises.

(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(2) A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.

(3) The pump man shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firefighting equipment in proper working order. Any defect coming to his notice shall be immediately brought to the notice of squad leader.

(4) As far as is practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone interlinked and placed in a convenient location near such areas.

(5) Fire hydrant system shall be capable of supplying a minimum of 4,500 liters per minute at a pressure of not less than 7 kilograms per square cm.

(6) Adequate provision of water supply for firefighting shall be made with static storage capacity of not less than 2 hours aggregate pumping.

## PART IV

**Risks of Toxic Substances**

**1. Leakage.**-(1) All plants shall be so designed and constructed as to prevent the escape of toxic substance. Where necessary, separate buildings, rooms, or protective structures shall be used for the dangerous stages of the process and the buildings shall be so designed as to localize any escape of toxic substances.

(2) Catch pits, bund walls, dykes, or other suitable safeguards shall be provided to restrict the serious effects of such leakages. Catch pits shall be placed below joints in pipelines where there is danger involved to maintenance and other employees from such leakage.

**2. Drainage.**-Adequate drainage shall be provided and shall lead to collection tanks specifically provided for this purpose wherein deleterious material shall be neutralized, treated or otherwise rendered safe before it is discharged into public drains or sewers.

**3. Covering of vessels.**-(1) Every fixed vessel or structure containing any toxic substance and not so covered as to eliminate all reasonable risk of accidental contact of any portion of the body of an employee, shall be so constructed as to avoid physical contact.

(2) Such vessel shall, unless its edge is atleast 90 centimeters above the adjoining ground or platform, be securely fenced to a height of atleast 90 centimeters above such adjoining ground or platform.

(3) Where such vessels adjoin and the space between them, clear of any surrounding brick or other work is either less than 45 centimeters in width or is 45 or more centimeters in width, but is not securely fenced on both sides to a height of atleast 90 centimeters, secure barriers shall be so placed as to prevent passage between them:

Provided that sub-paragraph (2) of this paragraph shall not apply to -

(a) saturators used in the manufacture of sulphate of ammonia ; and

(b) that part of the sides of brine evaporating pans which require raking, drawing or filling.

**4. Continuous exhaust arrangement.**-(1) Any process evolving toxic vapour, gas, fume and substance shall have efficient continuous exhaust draught. Such arrangement shall be interlocked in the process control wherever possible.

(2) In the event of failure of continuous exhaust arrangement, means shall be provided to automatically stop the process.

**5. Work bench.**-All the work benches used in process involving the manipulation of toxic substances, shall be waded properly and shall be made of smooth impervious surface which shall be washed daily after the completion of work.

**6. Waste disposal.**-(1) There shall be provided a suitable receptacle made of non-absorbable material with a tightly fitting cover for depositing waste material soiled with toxic substances and the contents of such saturators shall be destroyed by burning or using other suitable receptacle methods under the supervision of a responsible person.

(2) During the course of manufacture, whenever any batch or intermediate products having toxicity is rejected on considerations of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactivate them, before disposal.

(3) The empty containers of toxic substances shall be cleaned thoroughly before disposal under the supervision of a responsible person.

## PART V

**Special Provisions**

**1. Special precautions for Nitro or Amino Processes.**-(1) Unless the crystallized nitro or amino substances or any of its liquor is broken or agitated in a completely enclosed process so as not to give rise to dust or fume, such process shall be carried on under an efficient exhaust draught or by adopting any other suitable means in such a manner as to prevent the escape of dust or fume in the working atmosphere.

(2) No part of the plant or equipment or implements which was in contact with nitro or amino compounds shall be repaired, or handled unless they have been emptied and thoroughly cleaned and decontaminated.

(3) Filling of containers with nitro or amino compounds shall be done only by using a suitable scoop to avoid physical contact and the drying of the containers in the stove shall be done in such a manner that the hot and contaminated air from the stove is not drawn into the work room.

(4) Processes involving the steaming into or around any vessel containing nitro or amino compounds or its raw materials shall be carried out in such a manner that the steam or vapour is effectively prevented to be blown back into the working atmosphere.

(5) Suitable antidotes such as methylene blue injections shall always be available at designated places of work for use during emergency involving the poisoning with nitro or amino compounds.

**2. Special precautions for chrome processes.**-(1) Grinding and sieving of raw materials in chrome processes shall be carried on in such a manner and under such condition as to secure effective separation from any other processes and under an efficient exhaust draught.

(2) There shall be washing facilities located very near to places where wet chrome processes such as leaching, acidification, sulphate settling, evaporation, crystallization, centrifugation or packing are carried out, to enable quick washing of affected parts of body with running water.

(3) Weekly inspection of hand and feet of all persons employed in chrome process shall be done by a qualified nurse and record of such inspections shall be maintained in a form approved by the Chief Inspector-cum-Facilitator.

(4) There shall be always available at designated places of work, suitable ointment such as glycerine, Vaseline, etc., and water proof plaster in a separate box readily accessible to the employees so as to protect against perforation of nasal septum.

**3. Special precautions for processes carried out in all glass vessels.**-(1) Processes and chemical reactions such as manufacture of vinyl chloride, benzyl chloride, etc., which are required to be carried out in all glass vessels shall have suitable means like substantial wire mesh covering to protect persons working nearby in the event of breakage of glass vessel.

(2) Any spillage or emission of vapour from all glass vessel due to breakage, shall be immediately inactivated or rendered innocuous by suitable means such as dilution with water or suitable solvents so as to avoid the risk of fire or explosion or health hazards.

**4. Special precautions for processes involving chlorate manufacture.**-(1) Crystallization, grinding or packing of chlorate shall not be done in a place used for any other purpose and such places shall have hard, smooth and impervious surface made of non-combustible material. The place shall be thoroughly cleaned daily.

(2) The personal protective equipment like overall, etc., provided for the chlorate employees shall not be taken from the place of work and they shall be thoroughly cleaned daily.

(3) Adequate quantity of water shall be available near the place of chlorate process for use during fire emergency.

(4) Wooden vessels shall not be used for the crystallization of chlorate or to contain crystallized ground chlorate.

**5. Special precautions in the use of plant and equipment made from reinforced plastics.**

(1) All plant and equipments shall conform to appropriate Indian or any other National Standard.

(2) Care shall be taken during storage, transport, handling and installation of plant and equipments to avoid accidental damage.

(3) All plant and equipments shall be installed in such a way as to ensure that loads are distributed as intended in design or as per the recommendations of the manufacturers.

(4) All pipe work shall be supported so that total loads local to the branches on the vessel or tank do not exceed their design values.

(5) After erection, all plant and equipments shall be subjected to a pressure test followed by a thorough examination by a competent person. The test and examination shall be as per relevant standard. A certificate of test and examination by competent person shall be obtained and kept available at site.

(6) All plant and equipments shall be subjected to periodical test and examination and record maintained as per paragraph 15 in Part II of this schedule.

(7) Plant and equipments during their use shall not be subjected to over filling or overloading beyond rated capacity.

**6. Special precautions for fumigation process.**- The occupier shall ensure the health and safety of the employees required to enter into the confined space where fumigation process is carried on, which includes personal protective equipments, supervision, testing procedures to ensure the suitability of the workspace for human health and safety.

## PART VI

### Medical Requirements

**1. Decontamination facilities.**-In all places where toxic substances are used in processes listed in Appendix 'A', the following provisions shall be made to meet an emergency:

(a) Fully equipped first-aid box.

(b) Readily accessible means of drenching with water persons, part of body of persons, and clothing of persons who have been contaminated with such toxic and corrosive substances, and such means shall be as shown in the table below:

<i>Number of persons employed at any time</i>	<i>Number of drenching showers</i>
Upto 50 persons	2
between 51 to 100	3
101 to 200	3+ 1 for every 50 persons thereafter
201 to 400	5+ 1 for every 100 persons thereafter
401 and above	7+ 1 for every 200 persons thereafter

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.

**2. Occupational health centre.**-In all the factories carrying out processes covered in Appendix 'A' there shall be provided and maintained in good order an occupational health centre with facilities as per scale laid down hereunder

(1) For factories employing up to 100 employees

(a) the services of a qualified medical practitioner, available on retainer ship basis, in his notified clinic near to the factory for seeking medical help during emergency. He will also carry out the pre-employment and periodical medical examinations as stipulated in paragraph 4 of this part.

(b) A minimum of five persons trained in first-aid procedures, amongst whom atleast one shall always be available during the working period.

(c) A fully equipped first-aid box.

(2) For factories employing 101 to 250 employees

(a) The occupational health centre shall have a room having a minimum floor area of 15square meter with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(b) A part-time medical practitioner will be in overall charge of the Centre who shall visit the factory minimum twice in a week and whose services shall be readily available during emergencies.

(c) There shall be one qualified and trained dresser-cum-compounder on duty throughout the working period.

(d) A fully equipped first aid box.

(3) For factories employing above 250 employees

(a) There shall be one full-time medical practitioner for factories employing up to 500 employees and one more medical practitioner for every 1,000 employees or part thereof.

(b) The occupational health centre in this case shall have a minimum of 2 rooms each having a minimum floor area of 15 square meter with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(c) There shall be one trained nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period.

(d) The occupational Health Centre in this case shall be suitably equipped to manage medical emergencies.

**3. Ambulance Van.**- (1) In every factory carrying out processes covered in Appendix 'A', there shall be provided and maintained in good condition, a suitably constructed and fully equipped ambulance van as per Appendix 'C' manned by a fulltime driver-cum-mechanic and a helper, trained in first-aid for the purposes of transportation of serious cases of accidents or sickness unless arrangements for procuring such facility at short notice during emergencies have been made with the nearby hospital or other places. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will always be available near the occupational health centre.

(2) The relaxation to procure Ambulance Van from nearby places provided for in sub-paragraph (1) above will not be applicable to factories employing more than 500 employees.

**4. Medical examination.**-(1) Employees employed in processes covered in Appendix 'A' shall be medically examined by a Medical Practitioner in the following manner:

(a) Once before employment, to ascertain physical suitability of the person to do the particular job;

(b) Once in a period of 6 months, to ascertain the health status of the employees; and

(c) The details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the register in **FORM XXIV**.

(2) Any finding of the Medical Practitioner revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Medical Officer who shall in turn, examine the concerned employees and communicate his findings within 30 days. If the Medical Officer is of the opinion that the person so examined is required to be suspended from the process for health protection he will direct the occupier accordingly, who shall not employ the said employee in the same process. However, the person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer in which case the person affected shall be suitably rehabilitated:

Provided that the Medical Officer on his own or in the opinion of the Inspector-cum-Facilitator may examine any other employee whom he feels necessary to be examined for ascertaining the suitability of his employment in the process covered in Appendix 'A' or for ascertaining the health status of any other employee and his opinion shall be final.

(3) No person shall be newly appointed without the Certificate of Fitness in **FORM XXIII** granted by the Medical Practitioner. If the Medical Practitioner declares a person unfit for being appointed to work in the process covered in Appendix 'A', such person shall have a right of appeal to the Medical Officer, whose opinion shall be final in this regard.

(4) The employee suspended from the process owing to the circumstances covered in sub-paragraph (2) shall be employed again in the same process only after obtaining the fitness certificate from the Medical Officer and after making entries to that effect in the health register.

## PART VII

### Additional Welfare Amenities

**1. Washing facilities.**-(1) There shall be provided and maintained in every factory for the use of all the employees taps for washing, at the rate of one tap for every 15 persons including liquid soap in a container with tilting arrangements and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in a clean and hygienic condition.

(2) If washing facilities as required above are provided for women, such facilities shall be separate for them and adequate privacy at all times shall be ensured in such facilities.

**2. Mess-room facilities.**-(1) The occupier of all the factories carrying out processes covered in Appendix 'A' and employing 100 employees or more shall provide for all the employees working in a shift, mess room facilities which are well ventilated and provided with tables and sitting facilities along with the provision of cold and hygienic drinking water facilities.

(2) Such facilities shall include suitable arrangements for cleaning and washing and shall be maintained in a clean and hygienic condition.

**3. Cloak room facilities.**-(1) The occupier of every factory carrying out any process covered in appendix 'A' shall provide for all the employees employed in the process, cloak room facilities with lockers. Each employee shall be provided with two lockers, one for work clothing and another separately for personal clothing and the lockers should be such as to enable the keeping of the clothing in a hanging position.

(2) The cloak room facilities so provided in pursuance of sub-paragraph (1) shall be located as far as possible near to the facilities provided for washing in pursuance of paragraph 1 (1). If it is not possible to locate the washing facilities, the cloak room facilities shall have adequate and suitable arrangements for cleaning and washing.

**4. Special bathing facilities.**-(1) The occupier of any factory carrying out the process covered under Appendix 'B' shall provide special bathing facilities for all the employees employed and such facilities shall be provided at the rate of 1 for 25 employees and part thereof, and shall be maintained in a clean and hygienic condition.

(2) The occupier shall insist all the employees employed in the processes covered in Appendix 'B' to take bath after the completion of the day's or shift work using the bathing facilities so provided and shall also effectively prevent such of those employees taking bath in any place other than the bathing facilities.

(3) Notwithstanding anything contained in sub-paragraph (1) above, the Chief Inspector-cum-Facilitator may require in writing the occupier of any factory carrying out any other process for which in his opinion bathing facilities are essential from the health point of view, to provide special bathing facilities.

## PART VIII

**1. Duties of employees.**-(1) Every employee employed in the processes covered in Appendix 'A' and Appendix 'B' shall not make safety device or appliance or any guarding or fencing arrangement, inoperative or defective and shall report the defective condition of the aforesaid arrangement as soon as he is aware of any such defect.

(2) Before commencing any work, all employees employed in processes covered in Appendix 'A' shall check their work place as well as the machinery, equipment or appliance used in the processes and report any malfunction or defect immediately to the supervisor or any responsible person of the management.

(3) All employees shall co-operate in all respects with the management while carrying out any work or any emergency duty assigned to them in pursuance of this schedule and shall always use all the personal protective equipments issued to them in a careful manner.

(4) All employees employed in the processes covered in Appendix 'A' or Appendix 'B' shall not smoke in the process area or storage area. If special facilities are provided by the management, only such facilities should be used.

(5) All employees employed in the processes covered in Appendix 'A' shall not remain in unauthorized place or carry out unauthorized work or improvise any arrangements or adopt short cut method or misuse any of the facilities provided in pursuance of the Schedule, in such a manner as to cause risk to themselves as well as or to others employed.

(6) The employees shall not refuse undergoing medical examination as required under these rules.

#### PART IX

**1. Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work in any of the processes covered in Appendix 'A' of this schedule.

#### APPENDIX 'A'

Any works or that part of works in which

(a) the manufacture, manipulation or recovery of any of the following is carried on :

(i) Sodium, potassium, iron, aluminium, cobalt, nickel, copper, arsenic, antimony, chromium, zinc, selenium, magnesium, cadmium, mercury, beryllium and their organic and inorganic salts, alloys, oxides and hydroxides;

(ii) ammonia, ammonium hydroxide and salts of ammonium;

(iii) the organic or inorganic compounds of sulphurous, sulphuric, nitric, nitrous, hydrochloric, hydrofluoric, hydroiodic, hydrosulphuric, hydrobromic, boric ;

(iv) cyanogen compounds, cyanide compounds, cyanate compounds;

(v) Phosphorous and its compounds, other than organic phosphorous insecticides;

(vi) chlorine.

(b) Hydrogen sulphide is evolved by the decomposition of metallic sulphides, or hydrogen sulphide is used in the production of such sulphides;

(c) bleaching powder is manufactured or chlorine gas is produced in chloroalkali plants;

(d) (i) gas tar or coal tar or bitumen or shale oil, asphalt or any residue of such tar is distilled or is used in any process of chemicals manufacture;

(ii) tar based synthetic colouring matters or their intermediates are produced;

(e) nitric acid is used in the manufacture of nitro compounds;

(f) explosives are produced with the use of nitro compounds;

(g) aliphatic or aromatic compounds or their metallic and non-metallic derivatives or substituted derivatives, such as chloroform, ethylene, glycol, formaldehyde, benzyl, chloride, phenol, methyl ethyl ketone peroxide, cobalt carbonyl, tungsten carbide etc, are manufactured, manipulated or recovered.

#### APPENDIX 'B'

Concerning Special Bathing Accommodation in Pursuance of Paragraph 4 of Part IV

1. Nitro or amino processes.

2. All chrome processes.

3. Processes of distilling gas or coal tar or processes of chemical manufacture in which tar is used.

4. Processes involving manufacture, manipulation, handling or recovery of cyanogen compound, cyanide compound, cyanate compounds.



5. Processes involving manufacture of bleaching powder or production of chlorine gas in chloro alkali plants.
6. Manufacture, manipulation or recovery of nickel and its compounds.
7. All processes involving the manufacture, manipulation or recovery of aliphatic or aromatic compounds or their derivatives or substituted derivatives.

## APPENDIX 'C'

**Ambulance** - Ambulance should have the following equipments

**General** -

- (i) A wheeled stretcher with folding and adjusting devices, head of the stretcher must be capable of being tilted upwards;
- (ii) Fixed suction unit with equipments;
- (iii) Fixed oxygen supply with equipments;
- (iv) Pillow with case;
- (v) Sheets;
- (vi) Blankets;
- (vii) Towels;
- (viii) Emesis bag;
- (ix) Bed pan;
- (x) Urinal;
- (xi) Glass.

**Safety equipment-**

- (i) Flares with life of 30 minutes;
- (ii) Flood lights;
- (iii) Flash lights;
- (iv) Fire extinguisher dry powder type;
- (v) Insulated gauntlets

**Emergency care equipments -**

**Resuscitation -**

- (i) Portable suction unit;
- (ii) Portable oxygen unit;
- (iii) Bag valve-mask, hand operated artificial ventilation unit;
- (iv) Airways;
- (v) Mouth gags;
- (vi) Tracheostomy adaptors;
- (vii) Short spine board;
- (viii) I.V. Fluids with administration unit;
- (ix) B.P. Manometer;
- (x) Cugg;
- (xi) Stethoscope

## Immobilization -

- (i) Long and short padded boards ;
- (ii) Wire ladder splints ;
- (iii) Triangular bandage;
- (iv) Long and short spine boards.

## Dressings -

- (i) Gauze pads — 4 inches x 4 inches;
- (ii) Universal dressing 10 inches x 36 inches;
- (iii) Roll of aluminum foils;
- (iv) Soft roller bandages 6 inches x 5 yards;
- (v) Adhesive tape in 3 inches roll;
- (vi) Safety pins;
- (vii) Bandage sheets;
- (viii) Burn sheet

## Poisoning -

- (i) Syrup of Ipecac and Activated charcoal Pre-packeted in doses
- (ii) Snake bite kit ;
- (iii) Drinking water.

## Emergency medicines -

As per requirement (under the advice of Medical Practitioner only).

## SCHEDULE XVII

**Manufacture of Dichromates**

(see rule 81)

**(1) Application.**-The provisions of this schedule shall apply to all factories or parts of factories in which the manufacture of dichromates is carried on.

**(2) Provision of protective clothing.**-The occupier shall provide and maintain in good condition, suitable protective clothing, loose-fitting rubber gloves of suitable length for the use of all persons coming into contact with chrome solution and also for persons handling the crystals or immersing their hands in chrome solutions or handling textile materials saturated with chrome solution.

**(3) First aid boxes or cupboards.**-(a)The occupier shall provide in readily accessible positions a sufficient number of special "First-Aid" boxes or cupboards.

(b) Each box or cupboard shall be distinctly marked, and shall contain, besides any other medical appliances or requisites, a supply of:

- (i) Collodion and Brushes.
- (ii) Impermeable Waterproof Plaster
- (iii) Ointment, Lint, Bandages and Scissors.
- (iv) A 2 percent alcoholic solution of Iodine.

(c) Nothing except appliance or requisites for First-Aid shall be kept in a "First-Aid" box or cupboard.

(d) Each "First-Aid" box or cupboard shall be placed under the charge of a person who possesses the certificate granted by the St. John Ambulance Association, for rendering first-aid and such person shall be readily available during working hours of the factory.

(e) A notice or notices shall be affixed in every workroom stating the name of the person in charge of a box or cupboard provided in respect of that room.

**(4) Cautionary notice and inspection of workmen.**-The occupier shall ensure that the Official Cautionary Notice as to the effects of chrome on the skin is kept posted up in the works and shall arrange for an inspection of the fingers and toes of all persons coming into contact With chrome solutions to be made at the works twice a week by the person in charge of the "First-Aid" box or cupboard.

If any person whose work brings him into contact with chrome solution or crystals shows a tendency to develop, or is known to be susceptible to chrome eczema he shall, if practicable, be transferred to other work not exposing him to such contact.

**(5) Accommodation for clothing.**-The occupier shall provide and maintain for the use of all the persons employed suitable accommodation of clothing, put off during working hours, with adequate arrangements for drying the clothing, if wet.

The accommodation so provided shall be placed in the charge of an official not lower in rank than a member of the supervisory staff and shall always be kept clean.

**(6) Provision and maintenance of mess-rooms.**-The occupier shall provide and maintain for the use of all the persons employed and remaining on the premises during the meal intervals a suitable mess-room, which shall be furnished as follows:

- (a) sufficient tables and chairs or benches with back-rests;
- (b) adequate means of warming food and boiling water;
- (c) suitable facilities for washing, comprising a sufficient supply of clean towels, soap and warm water.

**(7) Processes relating to noxious dust, fume, etc.**- Processes that give rise to noxious dust, fume, vapour or mist shall be isolated from others and shall either be totally enclosed or provided with hoods and suitable exhaust ventilation.

**(8) Operations which set free vapors containing particles of chromium.**-The operations which set free vapors containing particles of chromium are -

- (i) fusing of raw materials ;
- (ii) dyeing the melted mass before cooling ; and
- (iii) concentration and evaporation methods to obtain crystals of bichromates;

The operations referred to in the first paragraph shall be carried out by

- (a) using a closed apparatus furnished with efficient exhaust, and
- (b) using an automatic system to eliminate manual handling.

**(9) Collection of roast batch.**-A separate space shall be set apart to collect the "roast batch" when it is drawn out from the furnace.

If the cooled "roast batch" has to be transported, it shall be done in covered receptacles.

**(10) Processes relating to solution at temperature higher than 50°C.**- The following processes, where solutions at temperature higher than 50°C are carried out shall be provided with exhaust ventilating cowls to carry away the vapors:

- (i) Vats for lixiviation
- (ii) Evaporating tanks.
- (iii) Acidifying vats.

**(11) Receptacles containing corrosive liquids.**-Receptacles containing corrosive liquids shall be effectively dosed to prevent spillage of solutions.

**(12) Circulation of salines.**-The circulation of salines shall be carried out in a water-tight system of pipes.

**(13) Dusty operations.**-The following dusty operations shall be carried out under exhaust ventilation or in separate rooms with adequate ventilation:

- (i) Grinding of raw materials;
- (ii) emptying of containers;
- (iii) furnace cleaning and withdrawal of roast ;

- (iv) sifting of ingredients;
- (v) mixing of ingredients ;
- (vi) drying of crystals ; and
- (vii) packing of products.

**(14) Provision of respiratory protection.**-All workmen shall be provided with efficient respiratory protection.

**(15) Maintenance and supervision of protective equipment.**-Proper maintenance and supervision of all protective clothing equipment shall be provided.

**(16) Collection of waste materials.**-All waste materials shall be collected in tanks or store-houses and protected from rain so that the soil may not be contaminated.

**(17) Cautionary notices.**-Cautionary notices as to the dangers associated with "Chromates" shall be conspicuously displayed in the factory where they may be easily and conveniently read by the employees.

**(18) Examination of workmen.**-The employee shall be examined daily to see that they do not have any lesions of the skin.

**(19) Examination of workmen by the Medical Officer.**-Every workman shall be examined once in a month by the Medical Officer and the result entered in the Health Register in **FORM XXVI**.

**(20) Supply of protective ointment or cream.**-Protective ointment or cream for application on limbs and in the nose shall be supplied to all employees.

**(21) Provision of washable working clothes and washing facilities.**-All workmen shall be provided with washable working clothes; kept in good order. Adequate provision of washing facilities shall also be provided.

**(22) Maintenance of tools.**-All tools issued to the maintenance staff shall be washed daily and kept clean. No fee or charge shall be realized from any employee for this purpose.

**(23) Provision of protective footwear.**-All employees on furnaces shall be provided with protective footwear such as wooden sandals.

**(24) Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any factory on the operation specified in paragraph 8 and 13.

#### SCHEDULE XVIII

#### Compression of Oxygen and Hydrogen produced by the Electrolysis of Water

(see rule 81)

1. The room in which electrolyser plant is installed shall be separate from the plant for storing and compressing the oxygen and hydrogen and also the electric generator room.

2. The purity of oxygen and hydrogen shall be tested by a competent person at least once in every shift at the following points

- (i) in the electrolysis room;
- (ii) at the gas-holder inlet ; and
- (iii) at the suction end of the compressor.

The purity figures shall be entered in the register and signed by the persons carrying out such tests:

Provided, however, that if the electrolyser plant is fitted with automatic recorded to purity of oxygen and hydrogen with alarm lights, it shall be sufficient if the purity of the gases is tested at the suction end of the compressor only.

3. The oxygen and hydrogen gases shall not be compressed if their purity as determined under clause 2 above falls below 98 percent at any time.

4. The bell of any gas-holder shall not be permitted to go within 30 cms of its lowest position when empty and a limit switch shall be fitted to the gas-holder in such a manner as to switch off the compressor motor when this limit is reached.

5. In addition to the limit switch in the gas-holder, a sensitive negative pressure switch shall be provided in, or adjacent to the suction main for hydrogen, close to the gas-holder and between the gas-holder and the hydrogen compressor to switch off the compressor motor in the event of the gas-holder being emptied to the extent as to cause vacuum.

6. The water and caustic soda and caustic potash used for making electrolytes shall be of standards suitable for electrolysis.

7. Electrical connections at the electrolyser cells and at the electric generator terminals shall be so constructed as to preclude the possibility of wrong connections leading to the reversal of polarity and in addition an automatic device shall be provided to cut off power in the event of reversal of polarity owing to wrong connections either at the switch board or at the electric generator terminals.

8. Oxygen and hydrogen gas pipes shall be painted with distinguishing colors. Whenever an hydrogen pipe is opened for repairs or any other work, on re-connection the pipe shall be purged of all air before hydrogen is allowed to pass through that pipe :

Provided that after repairs, hydrogen pipes shall preferably be purged by an inert gas like nitrogen, whenever possible, before introducing hydrogen for final purging.

9. All electrical wiring and apparatus in the electrolyser room and hydrogen compression room shall be of flame-proof construction or enclosed in flame-proof fittings and no naked light or flame shall be allowed to be taken either in the electrolyser room or where compression and filling of the gases is carried on and such warning notices shall be exhibited in prominent places.

9. No part of the electrolyser plant and the gas-holders and compressor shall be subjected to welding, bracing, soldering or cutting until steps have been taken to remove any explosive substance from that part and render the part safe for such operations and after the completion of such operation no explosive substance shall be allowed to enter that part until the metal has cooled sufficiently to prevent risk of explosion.

10. No work of operation, repair or maintenance shall be undertaken except under the direct supervision of a person who by his training, experience and knowledge of the necessary precautions against risk of explosion is competent to supervise such work. No electric generator after erection or repairs shall be switched on to the electrolyzers unless the same is certified by the competent persons under whose direct supervision erection or repairs are carried on to be in a safe condition and the terminals have been checked for the polarity as required by clause 6.

11. Every part of the electrolyser plant and the gas-holders and compressor shall have a regular schedule of overhaul and checking and every defect noticed shall be rectified forthwith.

#### SCHEDULE XIX

#### **Manipulation of Stone or any other Material containing free Silica**

(see rule 81)

**1. Application.-** This Schedule shall apply to all factories or parts of factories in which manipulation of stone or any other material containing free silica is carried on. This shall include the manufacturing processes pertaining to Stone Crushers, Gem and Jewellery, Slate Pencil Making, Agate Industry, Cement Industry, Pottery and Glass Manufacturing.

**2. Definitions.-** For the purpose of this Schedule -

(a) "manipulation" means crushing, breaking, chipping, dressing, grinding, sieving, mixing, grading or handling of stone or any other material containing free silica or any other operation involving such stone or material;

(b) "stone or any other material containing free silica" means a stone or any other solid material containing not less than 5 percent by weight of free silica.

**3. Preventive Control Measures.-** No manipulation shall be carried out in a factory or part of a factory unless the following preventive control measures are adopted, namely:-

##### **(1) Engineering Control Measures:**

##### **(a) Wet Methods:**

(i) Airborne Silica Dust should be minimized or suppressed by applying water to the process or cleanup;

(ii) Water should be provided for drilling or sawing of concrete or masonry,

##### **(b) Ventilation:**

(i) An effective Local exhaust system should be provided and maintained to control/remove silica dust from industrial processes.

(ii) Dilution / ventilation may be used to reduce free silica dust concentration to below the permissible limits in large areas.

(iii) Dust collectors / High Efficiency Particle Air filter (HEPA) should be set up so that dust shall be removed from the source and all transfer points to prevent contaminating work areas.

(iv) Ventilation systems should be kept in good working conditions.

**(c) Isolation:**

- (i) Containment methods should be used while carrying out sand blasting.
- (ii) Cabins of vehicles or machinery cutting and drilling that might contain free silica should be enclosed and sealed.

**(d) Dust Control:**

(i) Vacuum System with High Efficiency Particle Air (HEPA) filter shall be used to remove dust from work areas and at all transfer points.

(ii) The belt conveyors transferring crushed material shall be totally enclosed throughout its length.

Provided that such control measures as above said are not necessary if the process or operation itself is such that the level of dust created and prevailing does not exceed the permissible limit of exposure specified in rule 97.

**(2) Medical Control Measures.**-(1) The occupier of every factory in which an employee employed in the processes specified in paragraph 1, shall ensure that every employee employed be examined by a Medical officer within fifteen days of his first employment. Such medical examination shall include pulmonary function test and chest X ray-Posterior Anterior (PA) view to be compared with standard International Labour Organisation (I.L.O) Radiographs on Pneumoconiosis which shall be read by a radiologist specialized / trained in the said field. No employee shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Medical officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical officer at least once in every twelve months. Such re-examination shall, wherever the Medical officer considers appropriate, include the test as specified in sub-paragraph (1) that is, pulmonary function test except chest X-ray-Posterior Anterior (PA) view to be compared with standard International Labour Organisation Radiographs on Pneumoconiosis which shall be read by a radiologist specialized / trained in the field of reading International Labour Organisation Radiographs on Pneumoconiosis and the chest X-ray which shall be carried out at least once in three years.

(3) Every employee employed in any of the aforesaid processes shall be radiological examined by the qualified Radiologist at the cost of the occupier using a standard size X-ray plates and the power of the X-ray machine shall be more than 300 milli ampere (mA) such radiological examination shall be examined as stated in sub-paragraph-1. The report of such X-ray shall be submitted to the Medical officer within three months of the said date.

(4) The Medical officer after examining an employee, shall issue a Certificate of Fitness in **FORM XXIII**. The record of re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Occupier of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests shall also be entered by the medical officer in a Health register in **FORM XXIV**. The certificate of Fitness and the Health register shall be kept readily available for inspection by the Inspector-cum-Facilitator and produced on demand.

(5) If at any time the Medical officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the processes shall be provided with alternate placement facilities unless he fully is incapacitated in the opinion of the Medical officer, in which case the person affected shall be suitably rehabilitated

(6) No person who has been found unfit to work as said in sub- paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Medical officer, after further examination, again certifies him fit for employment in those processes.

(7) If an employee already in employment and declared unfit by the Medical officer shall not be allowed to work on any of the processes specified in paragraph 1, unless he has been examined again along with standard size chest X-ray plate from a qualified Radiologist and such Radiological examination shall be examined as stated in sub-paragraph 1, at the cost of the occupier and has been certified to be fit to work on the said processes again.

(8) For the purpose of medical supervision by the Medical practitioner so appointed by the occupier shall be provided for his exclusive use a room in the factory premises which shall be properly cleaned, adequately lighted ventilated and furnished with a screen, a table with office stationary, chairs and other facilities and other instruments including X-ray arrangements for such examinations and such other equipments as may be prescribed by the Chief Inspector-cum-Facilitator for time to time. The medical practitioner so appointed shall perform the following duties.

- (a) maintain health register in **FORM XXIV**;
- (b) undertake medical supervision of persons employed in the factory;
- (c) look after health, education and rehabilitation of sick, injured or affected employees;

(d) carry out inspection of work rooms where dangerous operations are carried out and advise the management on the measures to be adopted for the protection of health of the employees employed therein.

(9) The Health Records of the employees exposed to silicosis, shall be maintained by the Occupier and kept up to a minimum period of 40 years from the beginning of the employment or 15 years after retirement or cessation of the employment, whichever is later and shall be accessible to employees concerned or their representatives.

(10) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a Health register in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator and produce on demand.

**(3) Administrative Control Measures.- (a) Work place / Environment Monitoring:** The occupier to ensure work place / environment monitoring to be performed to determine magnitude of exposure / concentration to evaluate engineering controls, selecting respiratory protection, work practices and the need for medical surveillance.

- (i) Exposure / concentration measurements should be made in the employees' actual breathing zone.
- (ii) Total sampling time shall be at least seven hours.
- (iii) Work place / Environment Monitoring shall be repeated quarterly.
- (iv) The report of dust sampling by occupier shall be made available to the public.

**(b) Training / Awareness:** Employees shall be trained in the following:-

- (i) Health effects of free silica dust exposure.
- (ii) Operations and material that produce free silica dust hazards.
- (iii) Engineering controls and work practice controls that reduce dust concentration.
- (iv) The importance of good housekeeping and cleanliness.
- (v) Proper use of personal protective equipment such as respirators etc.
- (vi) Personal hygiene practices to reduce exposure.

**(c) Maintenance of floors:**

(i) All floors or places where fine dust is likely to settle on and whereon any person has to work or pass shall be of impervious material and maintained in such condition that they can be thoroughly cleaned by a moist method or any other method which would prevent dust being airborne in the process of cleaning once at least during each shift.

(ii) For this purpose dry sweeping or compressed air shall be used for cleanup of dust or wet methods or vacuum system with a High Efficiency Particle Air (HEPA) filter shall be used.

(iii) Dust on over head ledges and equipment should be removed before it becomes air borne due to vibration traffic and random air current.

**(d) Change room and washing facilities:**

- (i) Washing and bathing facilities shall be conveniently located at a place easily accessible to the employees.
- (ii) Cloak room with individual lockers shall be provided for employees to store uncontaminated clothing.
- (iii) Employees shall take bath and change the work clothes before they leave the work site.
- (iv) Work clothes shall not be cleaned by blowing or shaking.
- (v) Eating/lunch areas shall be located away from exposed areas.

**(e) Display of Notices:**

- (i) Warning signs / Posters shall be displayed conspicuously in a prominent place.
- (ii) The Warning signs / Poster shall contain the Hazards and precautions to be taken.
- (iii) The display of notice shall be in the local language and also in the language understood by the majority of the employees.

**(f) Personal Protective Equipment:**

The occupier of the every factory to which this schedule apply shall provide the following Personal Protective Equipments (PPEs) as per relevant National Standards or International Standards and as applicable to a given work place:-

- (i) Dust respirator
- (ii) High Efficiency Particle Air (HEPA) filter respirator or fume respirator.
- (iii) High Efficiency Particle Air (HEPA) filter respirator with full face piece.
- (iv) Self contained breathing apparatus ((SCBA)
- (v) Supplied air respirator with a full face piece, helmet or hood.
- (vi) Self contained breathing apparatus ((SCBA) with full face piece.
- (vii) Powered air purifying respirator with a High Efficiency Particle Air (HEPA) filter.

**(4) Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work wherein operations specified in sub-paragraph (a) of paragraph 2 are carried on.

#### SCHEDULE XX

#### **Handling and Processing of Asbestos, Manufacture of any Article or Substance of Asbestos and any other Process of Manufacture or otherwise in which Asbestos is used in any form.**

(see rule 81)

1. **Application.-**This Schedule shall apply to all manufacturing process as defined under clause (zi) of sub-section (1) of section 2 of the code, carried on in a factory involving exposure of employees to asbestos and/or product containing Asbestos.

2. The Government may, at any time, for the purpose of giving effect to any scientific proof obtained from specialised institutions or experts in the field, by notification in the Tamil Nadu Government Gazette, make suitable changes in the said schedule.

3. The provisions of this schedule shall apply to all employees exposed to asbestos in the factory and it shall be the responsibility of the occupier of the factory to comply with the provisions of this schedule in respect of the employees.

4. (a) The occupier of the factory wherein asbestos or substances containing asbestos are in use, shall prepare work procedures and practices, in the light of scientific research and technological progress for approval by the Chief Inspector-cum-Facilitator and shall follow only such approved procedures.

(b) Notwithstanding anything mentioned in sub-paragraph (1), use of asbestos is prohibited in the manufacturing process as may be notified by the Government in this behalf.

(c) (i) spraying of all forms of asbestos is prohibited in a factory.

(ii) The prohibition in respect of spraying of asbestos referred to in item(c) (i) may be exempted by the Chief Inspector-cum-Facilitator if the Occupier represents that such spraying is inevitable for certain purposes provided adequate measures for ensuring the safety and health of employees are undertaken by the occupier to the satisfaction of the Chief Inspector-cum-Facilitator.

#### **2. Definitions.-**For the purpose of this Schedule,-

a) "asbestos" means any fibrous silicate mineral and any admixture containing actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;

b) "asbestos textiles" means yarn or clothes composed of asbestos or asbestos mixed with any other materials;

c) "approved" means approved for the time being in writing by the Chief Inspector-cum-Facilitator;

d) "breathing apparatus" means a helmet or face piece with necessary connection by means of which a person using it breathes air free from dust, or any other approved apparatus;

e) "efficient exhaust draught" means a localised ventilation by mechanical means for the removal of dust so as to prevent dust from escaping into air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to control dust produced at the point where such dust originates;

f) "preparing" means crushing, disintegrating any other processes in or incidental to the opening or asbestos;

g) "protective clothing" means overalls and head covering, which (in either case) will when worn exclude asbestos dust;

h) "asbestos dust" means, airborne particles of asbestos or settled particles of asbestos which are liable to become air borne in the factory;



i) "airborne asbestos dust" means, for the purposes of measurement, dust particles measured by gravimetric assessment or other equivalent method;

j) "repairable asbestos fibers" means asbestos fibers having diameter of less than 3 micrometer and a length to diameter ratio greater than 3:1;

k) "exposure to asbestos" means exposure to airborne repairable asbestos fibers or asbestos dust; whether originating from asbestos or from minerals, materials or products containing asbestos in the factory.

**3. Demolition of plants or structures.**-No person shall carry out any demolition of plants or structures containing friable asbestos insulation material and removal of asbestos from building or structures in which asbestos is liable to become airborne, unless he is recognized and duly empowered by the Chief Inspector-cum-Facilitator as qualified to carry out such work in accordance with the provisions of this Schedule.

**4. Tools and equipment.**-Any tools or equipment used in processes to which this schedule applies shall be such that they do not create asbestos dust above the permissible limit or are equipped with efficient exhaust draught.

**5. Exhaust draught.**-(1) An effective exhaust draught shall be provided and maintained to control dust from the following processes and machines as per the relevant standard prescribed by the Bureau of Indian Standard:-

a) manufacture and conveying machinery, such as -

i) preparing, grinding, or dry mixing machines;

ii) carding, card waste and ring spinning machines, and looms;

iii) machines or other plant fed with asbestos;

iv) machines used for the sawing, grinding, turning, drilling, abrading or polishing, in the dry state of articles composed wholly or partly of asbestos;

b) cleaning and grinding of the cylinders or other parts of a carding machine;

c) chambers, hoppers or other structures into which loose asbestos is delivered or passes;

d) work-benches for asbestos waste sorting or for other manipulation of asbestos by hand;

e) workplaces at which the filling or emptying of sacks, skips or other portable containers, weighing or other process incidental thereto which is effected by hand, is carried on;

f) sack cleaning machines;

g) mixing and blending of asbestos by hand; and

h) any other process in which dust is given off into the work environment.

2) Exhaust ventilation equipment provided in accordance with sub-paragraph (1) shall, while any work of maintenance or repair to the machinery, apparatus or other plant or equipment in connection with which it is provided is being carried on, be kept in use so as to produce an exhaust draught which prevents the entry of asbestos dust into the air of any workplace.

3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any workroom.

4) The asbestos bearing dust removed from any workroom by the exhaust system shall be collected in suitable receptacles or filter bags which shall be isolated from all work areas.

**6. Testing and examination of ventilating systems.**-(1) All ventilating systems used for the purpose of extracting or suppressing dust as required by this schedule shall be as per the standard prescribed by the Bureau of Indian Standards, examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of twelve months. Any defects found by such examinations or test shall be rectified forthwith.

(2) A register containing particulars of such examination and tests as shown in **FORM XXVII** and the state of the plant and the repairs or alterations, if any, found to be necessary shall be kept and shall be available for inspection by an Inspector-cum-Facilitator.

**7. Segregation in case of certain process.**-Mixing or blending of asbestos by the hand, or making or repairing of insulating mattresses composed wholly or partly of asbestos shall not be carried on in any room in which any other work is done.

**8. Storage and distribution of loose asbestos.**-All loose asbestos shall, while not in use be kept in suitable closed receptacles which prevent the escape of asbestos dust there from. Such asbestos shall not be distributed within a factory except in closed receptacles or in a totally enclosed system of conveyance.

**9. Asbestos sacks.**-(1) All sacks used as receptacles for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials and shall be kept in good repair.

(2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine, complying with paragraph 5.

(3) Asbestos sacks or receptacles which contain asbestos shall be disposed off in a safe manner.

**10. Maintenance of floors and workplaces.**-(1) In every room in which any of the requirements of this schedule apply -

(a) the floors, work-benches, machinery and plant shall be kept in a clean state and free from asbestos debris and suitable arrangements shall be made for the storage of asbestos not immediately required for use; and

(b) the floors shall be kept free from any materials, plant or other articles not immediately required for the work carried on in the room, which would obstruct the proper cleaning of the floor.

(2) The cleaning as mentioned in sub-paragraph (1) shall so far as is practicable, as carried out by means of vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escapes nor is discharged into the air of any work place.

(3) When the cleaning is done by any method other than that mentioned in sub-paragraph (2), the persons doing cleaning work and any other person employed in that room shall be provided with respiratory protective equipment and protective clothing.

(4) The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2), shall be properly maintained and after each cleaning operation, its surfaces kept in a clean state and free from asbestos waste and dust.

(5) Asbestos waste shall not be permitted to remain on the floors or other surfaces at the work place at the end of the working shift and shall be transferred without delay to suitable receptacles. Any spillage of asbestos waste occurring during the course of the work at any time shall be removed and transferred to the receptacles maintained for the purpose without delay.

(6) (i) The occupier shall replace asbestos or of certain types of asbestos or products containing asbestos by other materials or products or shall use alternative technology, scientifically evaluated as harmless or less harmful, wherever is possible.

(ii) The occupier shall take all the measures to prevent or control the release of asbestos in to the air and to ensure that the exposure limits or other exposure criteria are complied with and also reduce exposure to as low as a level as is reasonably practicable.

**11. Breathing Apparatus, Personnel Protective Equipment and Clothing.**-(1) The occupier of every factory to which this schedule applies shall provide to employees personnel protective equipments such as hand gloves, shoes, helmets, goggles, earplug, aprons, safety belt, overall suit, etc, as per the relevant standard prescribed by the Bureau of Indian Standards. The approved breathing apparatus and appropriate work clothing as per the relevant standard prescribed by the Bureau of Indian Standards in consultation with the employees representatives and maintained in good conditions for use of every person employed -

(a) in chambers containing loose asbestos;

(b) in cleaning, dust settling or filtering chambers of apparatus;

(c) in cleaning the cylinders, including the defer cylinders, or other parts of a carding machine by means of hand-stickles;

(d) in filling, beating or leveling in the manufacture or repair of insulating mattresses; and

(e) in any other operation or circumstances in which it is impracticable to adopt technical means to control asbestos dust in the work environment within the permissible limit.

(2) Suitable accommodation in conveniently accessible position shall be provided for the use of persons when putting on or taking off breathing apparatus and protective clothing provided in accordance with this schedule and for the storage of such apparatus and clothing when not in use.

(3) All breathing apparatus and protective clothing not in use shall be stored in the accommodation provided in accordance with sub-paragraph (2) above.

(4) All protective clothing in use shall be de-dusted under an efficient exhaust draught or by vacuum cleaning and shall be washed at suitable intervals. The cleaning schedule and procedure should be such as to ensure the efficiency in protective the wearer.

(5) All breathing apparatus shall be cleaned and disinfected at suitable intervals and thoroughly inspected once in every month by a responsible person.

(6) A record of the cleaning and maintenance and of the condition of the breathing apparatus shall be maintained in a register provided for that purpose which shall be readily available for inspection by an Inspector-cum-Facilitator.

(7) No person shall be employed to perform any work specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment.

(8) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

(9) No employee shall take home any work clothing or special protective clothing or personal protective equipment provided him for protection against exposure to asbestos.

**12. Separate accommodation for personal clothing.**—A separate accommodation shall be provided in a conveniently accessible position for all persons employed in operations to which this schedule applies for storing of personal clothing.

This shall be separated from the accommodation provided under sub-paragraph (2) of paragraph 11 to prevent contamination of personal clothing.

**13. Washing and bathing facilities.**—(1) There shall be provided and maintained in a clean state and in good repair for the use of all employees employed in the processes covered by this schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 15 persons employed.

(2) The washing places shall have standpipes placed at intervals of not less than one metre.

(3) Not less than one half of the total number of washing places shall be provided with bathrooms.

(4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each employee if so ordered by the Inspector-cum-Facilitator.

(5) Sufficient supply of soap and nail brushes shall be provided.

**14. Mess Room.**—There shall be provided and maintained for the use of all employees employed in the factory covered by this schedule, remaining on the premises during the rest intervals, a suitable mess room which shall be furnished with

(a) sufficient tables and benches with back rest; and

(b) adequate means for warming food.

**15. Prohibition relating to smoking.**—No person shall smoke in any area where processes covered by this schedule are carried on. A notice in Tamil and the language understood by majority of the employees shall be posted in the plant prohibiting smoking at such areas.

**16. Pictorial Cautionary notices.**—Cautionary notices in the form specified in appendix and printed in Tamil and the language easily read and understood by the majority of the employees shall be displayed in prominent places in the workrooms where asbestos or substances containing asbestos are manufactured, handled or used.

**17. Air monitoring.**—To ensure the effectiveness of control measures in continuous or repetitive processes, the monitoring of asbestos fibres in air as well as personal monitoring of employees shall be carried out at least once in every shift and the result so obtained shall be entered in register and

(a) there shall be no substantial change in workplace conditions;

(b) the results of the two (2) preceding measurements have not exceeded half the relevant control limit.

(c) all factories should adopt membrane filter test as per the relevant standard prescribed by the Bureau of Indian Standards without fail.

Explanation.—“Membrane Filter Test” is defined as the method of determination of airborne asbestos fiber concentration in work environment by light microscopy (Membrane Filter Method).

**18. Medical control measures.**—(1) The occupier of every factory in which an employee employed in the processes specified in Sub paragraph (1) of paragraph 1, shall ensure that every employee employed be examined by a Medical officer within fifteen days of his first employment. Such medical examination shall include sputum examination for asbestos bodies, pulmonary function test and chest X ray—Posterior Anterior (PA) view to be compared with standard International Labour Organisation Radiographs on Pneumoconiosis. No employee shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Medical officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical officer at least once in every twelve months. Such re-examination shall, wherever the Medical officer considers appropriate, include all the tests as specified in sub-paragraph (1) except chest X-ray which shall be read by a radiologist specialized/ trained in the field of reading International Labour Organisation Radiographs on Pneumoconiosis and the chest X-ray which shall be carried out at least once in three years.

(3) Every employee employed in any of the aforesaid processes shall be radiological examined by the qualified Radiologist at the cost of the occupier using a standard size X-ray plates and the power of the X-ray machine shall be more than 300 milli ampere (mA). The report of such X-ray shall be submitted to the Medical officer within three months of the said date.

(4) The Medical officer after examining an employee, shall issue a Certificate of Fitness in **FORM XXIII**. The record of re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Occupier of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests shall also be entered by the Medical officer in a Health Register in **FORM XXIV**. The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator and produce on demand.

(5) If at any time the Medical officer is of the opinion that an employee is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the employee he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he fully is incapacitated in the opinion of the Medical officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Medical officer, after further examination, again certifies him fit for employment in those processes.

(7) If an employee already in employment and declared unfit by the Medical officer shall not be allowed to work on any of the processes specified in sub-paragraph (1) of paragraph 1, unless he has been examined again along with standard size chest X-ray plate from a qualified Radiologist, at the cost of the occupier and has been certified to be fit to work on the said processes again.

(8) For the purpose of medical supervision by the Medical Practitioner so appointed by the occupier shall be provided for his exclusive use a room in, the factory premises which shall be properly cleaned, adequately lighted ventilated and furnished with a screen, a table with office stationary, chairs and other facilities and other instruments including X-ray arrangements for such examinations and such other equipments as may be prescribed by the Chief Inspector-cum-Facilitator for time to time. The Medical Practitioner so appointed shall perform the following duties:-

(a) maintain health register in **FORM XXIV**.

(b) undertake medical supervision of persons employed in the factory.

(c) look after health, education and rehabilitation of sick, injured or affected employees.

(d) carry out inspection of work rooms where dangerous operations are carried out and advise the management on the measures to be adopted for the protection of health of the employees employed therein.

(9) The Health Records of the employees exposed to asbestos, shall be maintained by the occupier and kept up to a minimum period of 40 years from the beginning of the employment or 15 years after retirement or cessation of the employment, whichever is later and shall be accessible to employees concerned or their representatives.

(10) The record of medical examinations and appropriate tests carried out by the said Medical Practitioner shall be maintained in separate register approved by the Chief Inspector-cum-Facilitator which shall be kept readily available for inspection by the Inspector-cum-Facilitator and produce on demand.

**19. Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work in any of the process covered by this schedule.

#### APPENDIX

##### Pictorial Cautionary Notice

1. Asbestos/asbestos dust which is used, handled or manipulated in this factory is a very hazardous to health.
2. Prolonged exposure to asbestos dust may lead to serious diseases like lung fibrosis (Asbestosis) and lung cancer.
3. Entry is prohibited without protective equipment.
4. Wear the Protective Equipments to safeguard your health.
5. No food stuffs or drinks shall be brought into this area.
6. Smoking, eating food or drinking and chewing tobacco in this area is prohibited.
7. Scrupulous cleanliness shall be maintained in this area.
8. Dry sweeping in this area is prohibited. Any spillage of asbestos shall be cleaned by vacuum cleaning only.

9. A sack or container contaminated with asbestos shall not be cleaned by hand and is to be disposed off by an appropriate method.

10. All protective equipments and clothing shall be re-dusted by vacuum cleaning and stored in an appropriate place provided for the purpose.

11. Entry of unauthorized persons or authorized persons without proper protective equipments is prohibited.

12. Report for the prescribed medical examinations and tests regularly, to protect your own health.

13. Report to your doctor immediately if you suffer from persistent breathlessness, chest tightness or cough.

#### SCHEDULE XXI

##### Handling and Manipulation of Corrosive Substances

(see rule 81)

**1. Application:-** Without prejudice to the provisions contained in schedule XVI, this Schedule shall apply in respect of all factories or any part thereof in which handling and manipulation of Corrosive substances is carried on.

**2. Definitions.-**For the purpose of this Schedule

(a) "Corrosive operation" means any manufacturing process, storing, handling, processing, packing or using any corrosive substance in a factory.

(b) "Corrosive substance" includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carboric acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof, and any other substance which the Government by notification in the Official Gazette specify to be corrosive substance.

**3. Flooring.-**The floor of every workroom of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistance material and shall be so constructed as to prevent collection of any corrosive substance. The surface of such flooring shall be smooth and cleaned as often as necessary and maintained in a sound condition.

**4. Protective equipment.-**(a) The occupier shall provide for the use of all persons employed in any corrosive operation suitable protective wear for hands and feet, suitable aprons, face shields, chemical safety goggles and respirators. The equipments shall be maintained in good order and shall be kept in clean and hygienic condition by suitably treating to get rid of the ill-effects of any absorbed chemicals and by disinfecting. The occupier shall also provide suitable protective creams and other preparations wherever necessary.

(b) The protective equipment and preparations provided shall be used by the persons employed in any corrosive operations.

**5. Water facilities.-**Where any corrosive operation is carried on, there shall be provided as close to the place of such operation as possible, a source of clean water at a height of 210 cm. (7 feet) from a pipe 1.25 cm. (1/2 inch) diameter and fitted with a quick acting valve so that in case of injury to the employee by any corrosive substance the injured part can be thoroughly flooded with water. Whenever necessary, in order to ensure continuous water supply, a storage tank having minimum length, breadth and height of 210 cm, 120 cm., and 60 cm. respectively or such dimensions as are approved by the Chief Inspector-cum-Facilitator shall be provided as the source of clean water.

**6. Cautionary notice.-**A cautionary notice in the following form and printed in the language which is understood by majority of the employees employed, shall be displayed prominently and close to the place where any corrosive operation is carried out and where it can be easily and conveniently read by the employee. If any employee is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

#### CAUTIONARY NOTICE

Corrosive substances cause severe burns and the vapors thereof, may be extremely hazardous. In case of contact, immediately flood the part affected with plenty of water for at least 15 minutes.

Get medical-attention quickly.

**7. Transport.-**(a) Corrosive substances shall not be filled, moved or carried except in containers or through pipes and when they are to be transported in containers, they shall be included in crates of sound construction and of sufficient strength.

(b) a container with a capacity of 11.5 liters (2- 1/2 gallons) or more of a corrosive substance shall be placed in receptacle or crate and then carried by more than one person at a height below the waist line unless a suitable rubber wheeled truck is used for the purpose.

(c) Containers for corrosive substance shall be plainly labeled.

**8. Devices for handling corrosives.**-(a) Tilting, lifting or pumping arrangements shall be used for emptying jars, carboys and other containers of corrosives.

(b) Corrosive substances shall not be handled by bare hands but shall be handled by means of a suitable scoop or other device.

**9. Opening of valves.**-Valves fitted to containers holding a corrosive substance shall be -opened with great care. If they do not work freely, they shall not be forced open. They shall be opened by an employee suitably trained for that purpose.

**10. Cleaning tanks, stills, etc.**- (a) In cleaning out or removing residues from stills or other large chambers used for holding any corrosive substance, suitable implements made of wood or other material shall be used to prevent production of arseniuretted hydrogen (Arsine).

(b) Whenever it is necessary for the purpose of cleaning or other maintenance work for any employee to enter chamber, tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precautions shall be taken to ensure the employee's safety.

(c) Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, such equipment or part thereof shall be freed of any adhering corrosive substance by adopting suitable methods.

**11. Storage.**-(a) Corrosive substances shall not be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials, the accidental mixing with which may cause a reaction which is either violent or gives rise to toxic fumes and gas.

(b) Pumping or filling overhead tanks, receptacles, vats or other containers for storing corrosive substances shall be so arranged that there is no possibility of any corrosive substance overflowing and causing injury to any person.

(c) Every container having a capacity of twenty liters or more on every pipe line, valves, and fitting used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects and defects shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector-cum-Facilitator whenever required.

**12. Fire extinguishers and fire-fighting equipment.**-An adequate number of suitable type of fire extinguishers or other fire-fighting equipment, depending on the nature of chemicals stored shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment should be used printed in the language which majority of the employees employed understand, shall be affixed near each extinguisher or other equipment.

## SCHEDULE XXII

### Manufacture or Manipulation of Carcinogenic Dye Intermediates

(see rule 81)

**1. Application.**-This Schedule shall apply in respect of all factories or any part thereof in which process of manufacturing or manipulation of a Carcinogenic Dye Intermediates (hereinafter referred to as the said manufacturing process) is carried on:

Provided that paragraphs 24 and 25 shall only apply to a process involving manufacture or manipulation of compounds mentioned in Appendix B (hereinafter referred to as the said manufacturing process B).

#### PART I

**2. Definitions.**-For the purposes of this Schedule

(a) "Air Line Respirator" means a helmet or face piece with necessary connections by means of which a person using it in a poisonous, or irritant atmosphere breathes ordinary air or any other suitable apparatus approved in writing by the Chief Inspector-cum-Facilitator ;

(b) "Approved" means approved by the Chief Inspector-cum-Facilitator;

(c) "Efficient Exhaust Draught" means localized ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air or any place in which work is carried on. No draught shall be deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fumes or dust originates;

(d) "First employment" means first employment in the said manufacturing process and also re- employment in such manufacturing process following any cessation of employment for continuous period exceeding three calendar months ;

(e) "Manipulation" includes mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using or chemical processing of a Nitro or amino compound ;

(f) "Nitro or amino compound" means a nitrated or aminated compounds of aromatic hydrocarbons mentioned in Appendix A or B attached thereto.

**3. Cautionary Placard.**- Cautionary placard in the form specified in Appendix C attached to this Schedule and printed in the language of the majority of the employees employed shall be affixed in prominent places frequented by them in the factory where the placards can be easily and conveniently read by the employees; and arrangement shall be made by the occupier to instruct periodically all employees employed in the said manufacturing process regarding the precautions contained in the cautionary placard.

**4. Air space.**-In every room in which the said manufacturing process is carried on there shall be at least 15 centimeters of air space excluding any space occupied by machinery, equipments or any other article for each person employed therein and in computing this air space no height over 4.25 meters shall be taken into account.

**5. Efficient exhaust draught.**-Unless the said manufacturing process is completely enclosed so as not to give rise to dust or fume it shall not be carried on without the use of an efficient exhaust draught when a nitro or amino compound -

(a) is introduced into a tank, hopper, machine or container or filled into cartridge ; or

(b) is ground, crushed, mixed, sieved or blended.

**6. Floor of workrooms.**-The floor of every workroom in which the said manufacturing process is carried on shall be (a) smooth and impervious to water provided that asphalt or tar shall not be used in the composition of the floor, (b) maintained in sound condition, (c) slope and provided gutters and (d) thoroughly washed daily by means of hose pipe and drain water shall be led into a sewer through a closed channel.

**7. Work-benches.**-Work-benches on which a nitro or amino compound is manipulated shall (a) have a smooth impervious surface preferably of stainless steel ; and (b) shall be washed daily with a hose-pipe or cleaned by means of a suction cleaning apparatus at a time when no other work is being carried on there.

**8. Waste.**-(1) A suitable receptacle made of non-absorbable material with a tightly fitting cover shall be provided and used for depositing waste, like cloth, paper or other material soiled with a nitro or amino compound.

(2) All such contaminated waste material shall be destroyed by burning at least once a week.

**9. Empty containers.**-Empty containers used for holding com-pounds included under Appendix A shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.

**10. Decontamination of pit, tank, etc.**- (a) Before an employee enters a tank, pit, kettle or any other confined space which contained a nitro or amino compound, it shall be thoroughly washed and decontaminated.

(b) No part of the plant which has contained a nitro or amino compound shall be repaired or opened for repairs unless it has emptied of such compound, thoroughly cleaned and decontaminated.

(c) Records of such treatment shall be maintained in a register approved by the Chief Inspector-cum-Facilitator and the register shall be made available for inspection when required by an Inspector-cum-Facilitator.

**11. Manual handling.**-A nitro or amino compound shall not be required or allowed to be mixed, filled, emptied or handled except by means of a scoop with a handle which shall be thoroughly cleaned daily.

**12. Protective wear.**-The occupier shall provide, maintain clean and in good repair protective clothing and other equipments as specified in the table below:-

THE TABLE

<i>Process</i>	<i>Protective clothing and other equipment</i>
For manipulation of compounds mentioned in Appendices A and B	(a) Long pants and shirts or overalls with long sleeves and head coverings. The shirt or overalls shall cover the neck completely (b) Rubber gloves, rubber gum boots, rubber aprons and air line respirator
For manipulation of compounds mentioned in Appendix B	(c) White clean clothing mentioned in (a) Above, in addition to white clean shirts, singlet and protective equipment as in (b) above (d) White long sleeved aprons

**13. Instructions as regard risks.**-Every employee on his first employment shall be fully instructed on the properties of the chemical he has to handle and of the dangers involved. Employees shall also be instructed in the measures to be taken to deal with any emergency.

**14. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall -

(a) employ a qualified Medical Practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said Medical Practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**15. Medical Examination by the Medical Officer.**-(1) Every employee employed in the said processes shall be examined by a Medical Officer within 15 days of his first employment. Such examination shall include tests for detection of methemoglobin in blood (Haematological tests), parantitrophenol in urine, pulmonary function tests and C.N.S tests. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical Officer at least once in every six calendar months and such re-examinations shall, wherever the Medical Officer considers appropriate, include all the tests specified in sub-paragraph (1).

(3) The Medical Officer after examining an employee, shall issue a certificate of fitness in **FORM XXV**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the Health Register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process, shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said process unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**16. Washing and bathing facilities.**-(1) The following washing and bathing facilities shall be provided and maintained in clean state and in good repair for the use of all persons employed in the said manufacturing process:

(a) A wash place under cover with clean towels, soap and nail brushes and with atleast one stand- pipe for every five such persons having constant supply of water.

(b) Fifty percent of the stand-pipes provided under item (a) above shall be located in bathroom where both hot and cold water shall be made available, during the working hours of the factory and for one hour thereafter.

(c) The washing and bathing facilities shall be within a radius of 15 meters from the area housing the said manufacturing process.

(d) Clean towels shall be provided individually to each employee if so ordered by an Inspector-cum-Facilitator.

(e) In addition to taps mentioned under item (a), one stand-pipe in which warm water made available shall be provided on each floor.

(2) Arrangement shall be made to wash factory uniforms clothes compulsorily every day.

**17. Washing and bathing.**-(a) All employees employed in the said manufacturing process shall carefully wash their hands and face before partaking of food or leaving the factory.

(b) Bath Register. — Employees employed in the said manufacturing process shall take a bath daily at the factory premises and enter their names in the bath register in token of having done so.

**18. Food, drinks, etc., prohibited in workroom.**-No employee shall consume food, drink, pan, supari or tobacco or shall smoke in any workroom in which the said manufacturing process is carried on and no employee shall remain in any such room during intervals for meals or rest.

**19. Cloak-room.**-There shall be provided and maintained in a clean state and in good repair for the use of the persons employed in the said manufacturing process (a) a cloak-room with lockers having two compartments, one for street clothes and the other for factory clothes and (b) a place separate from the locker room and from the mess-room for the storage of protective equipment provided under paragraph 13. The accommodation so provided shall be under the care of a responsible person and shall be kept clean.



**20. Mess-room.**-There shall be provided and maintained for use of all persons employed in the factory and remaining in the premises during the meal intervals, a mess-room which shall be furnished with (a) tables and benches, and (b) means for warming food.

The mess-room shall be placed under the charge of a responsible person and shall be kept clean.

**21. Time allowed for washing.**-Before each meal and before the end of the day's work at least ten minutes in addition to the regular intervals shall be allowed for washing to each person who has been employed in the said manufacturing process.

**22. Drying stoves.** - (1) Every drying stove shall be efficiently ventilated to the outside air in such a manner that hot air from the stove shall not be drawn into any workroom.

(2) No person shall enter stove to remove the contents until a free current of air has been passed through it by mechanical means.

**23. Non-sparking tools.**-Non-sparking tools shall be provided for the purpose of cleaning or repairing machinery or operating any process where vapors of betanaphthylamine are evolved.

**24. Testing of atmosphere, etc.**-Amines in the atmosphere of the workroom where the manufacturing process is carried on shall be estimated once every week and records of results of such estimations shall be made available when required by an Inspector-cum-Facilitator.

**25. Prohibition relating to Pregnant Women.**-No pregnant women shall be employed or permitted to work in the area wherein operations specified in sub-paragraph (e) of paragraph 2 are carried on.

## PART II

**26. Separation of processes.**-The said manufacturing process in Appendix B shall be carried on in rooms which shall not communicate with any other room except through a passage open entirely to outside atmosphere.

**27. Limitation of exposure.**-(1) No employee under the age of 40 years shall be engaged in the factory for the said manufacturing process in Appendix B for the first time.

(2) Before the end of the day's work at least one hour shall be allowed for bathing to each person, who is employed in the said manufacturing process in Appendix B including the time allowed under paragraph 19.

## APPENDIX A

(see paragraphs 2, 9, 12 and 14)

The benzenes, toluenes, xylenes, having undergone nitration once or several times (nitro, dinitro and trinitro benzene and its homologues) and their chlorinated compounds, naphthalenes, having undergone nitration once or several times, aniline, and its homologues (toluidine, syncline, cumidine) anisidine, phenetidine and their chlorinated, nitrated and alkyolated compounds (demethylenillintoluyldiamine, toluidine, phynylhydrazine, toluyhydrazin).

## APPENDIX B

(see paragraphs 2, 12, 14, 24 and 26)

Alphanaphthylamine.

Betanaphthylamine.

Henzidine and its salts

Dianisidine.

Tolidine.

Dichlorobenzidine.

## APPENDIX C

(see paragraph 3)

Cautionary placard

Advice to employees:-

(1) Nitro and amino compounds or aromatic hydrocarbons are dangerous. In this factory you have to handle them frequently.

(2) All items of protective wear provided should be made use of to safeguard your health.

(3) Maintain scrupulous cleanliness at all times. Before meal, wash hands and feet. A bath before leaving the factory is essential, taking care to wash the head well.

(4) If any chemical falls on your body, wash it off immediately with soap and water, change clothing at once, if soaked with a cyanotic nitro or amino compound. Contact the appointed doctor immediately.

(5) Do not handle any nitro or amino compound with bare hands. Use a long handled scoop.

(6) Avoid alcoholic drinks as these increase risk of poisoning.

(7) In case of illness contact the Occupier and the appointed doctor.

(8) Do not chew, eat, drink or smoke in the workroom or with soiled hands. Keep food and drink away from the workplace.

(9) If you work with Betanaphthylamine or benzidine or its salts, alphanaphthylamine or dianisidine-

(a) remember the serious effects will follow after a number of years if great care is not taken to observe absolute cleanliness of body, clothes, machinery and tools;

(b) at mealtime, wash face and hands twice with soap and water to remove all chemicals ; wear a long-sleeved clean apron while eating;

(c) before leaving the factory take a bath using soap and water twice ; after this put on your home clothes.

#### SCHEDULE XXIII

#### **Process of Extracting Oils and Fats in Solvent Extraction Plants**

(see rule 81)

**1. Definitions.**-(a) "Competent Person" for the purpose of this Schedule shall be at least a member or an Associate Member of the Institution of Engineers (India) with ten years experience in a responsible position as may be approved by the Chief Inspector-cum-Facilitator:

Provided that a Graduate in Mechanical Engineering or Chemical Technology with specialized knowledge of Oils and Fats and with a minimum experience of five years in a solvent extraction plant shall also be considered to be a competent person:

Provided further that the Government may accept any other qualifications, if in its opinion, they are equivalent to the qualifications aforesaid;

(b) "Flame-proof enclosure as applied to electrical machinery or apparatus means an enclosure that will withstand, when covers or other access doors are properly secured, an internal explosion of the inflammable gas or vapour which may enter or which may originate inside the enclosure without suffering damage and without communicating the internal inflammation (or explosion) to the external flammable gas or vapour.

(c) "Solvent" means an inflammable liquid such as Pentane and Hexane and Heptane used for the extraction of vegetable oils;

(d) "Solvent Extraction Plant ", means a plant in which the process of extracting oils and fats by the use of solvents is carried on.

**2. Location and lay out.**-(a) No solvent extraction plant shall be permitted to be constructed or extended within a distance of thirty meters from the nearest residential locality.

(b) A continuous wire fencing shall be provided around the solvent extraction plant up to a minimum distance of 15 meters from the plant and the fencing so provided shall be not less than 1.5 meters in height.

(c) No person shall be allowed to carry any matches or an open flame or fire inside the area bound by the fencing.

(d) Boiler houses and other buildings where open flame processes are carried on shall be located at least thirty meters away from the solvent extraction plant.

(e) If godowns and preparatory processes are within a distance of thirty meters from the solvent extraction plant, these shall be at least fifteen meters distance from the plant, and a continuous barrier wall of non-combustible material of a height of 1.5 meters from ground level shall be erected at a distance of not less than fifteen meters from the solvent extraction plant so that it extends to at least thirty meters of vapour travel around its ends from the plant to the possible sources of ignition.

**3. Electrical Installation.**-(a) All electrical motors, electrical wiring system, the electric lamps, switches, circuit breakers and all other electrical equipment used within the premises of a factory where extraction of oil is being carried on with the help of solvents shall be of flame proof construction and should be suitable for use in areas where Hexane or similar types of solvents or vapors are likely to exist.

(b) All metal parts of the plant and building including various tanks and containers where solvents are stored or are likely to be present and all parts of electrical equipments not required to be energized shall be properly connected to earth so as to avoid accidental rise in the electrical potential of such parts above the earth potential.

**4. Restriction on smoking.**-Smoking shall be strictly prohibited within a distance of 15 meters from the solvent extraction plant. For this purpose 'No Smoking' signs shall be permanently displayed in the area.

**5. Precautions against friction.**-(a) All tools and equipment including ladders, chains and other lifting tackle required to be used in the solvent extraction plant shall be of non-sparking type ;

(b) No machinery or equipment in any solvent extraction plant shall be belt driven unless the belt used is of such a type that it does not permit accumulation of static electricity to a dangerous level;

(c) No person shall be allowed to enter and work in the solvent extraction plant wearing clothes made of nylon or such other fiber that can generate static electrical charge or wear footwear which is likely to cause sparks by friction.

**6. Fire-fighting apparatus.**-(a) An adequate number of portable fire extinguishers suitable for use against flammable liquid fire shall be provided in the solvent extraction plant;

(b) An automatic water spray sprinkler system on a wet pipe or open head deluge system with a sufficient supply of storage water shall be provided over the solvent extraction plant and throughout the building housing such plant.

**7. Precautions against power failure.**-Provision shall be made for the automatic cutting off of steam in the event of power failure and also for emergency overhead water supply for feeding water by gravity to condensers which shall come into play automatically upon a power failure.

**8. Magnetic separators.**-Oil-cake shall be fed to the extractor by a conveyor through a hopper and a magnetic separator shall be provided to remove any piece of iron during its transfer.

**9. Venting.**-(a) Tanks containing solvents shall be protected with emergency venting to relieve excessive internal pressure in the event of fire.

(b) All emergency relief vents shall terminate at least six meters above the ground and be so located that the vapors will not re-enter the building in which the solvent extraction plant is located.

**10. Waste-water.**-Process waste water shall be passed through a flash evaporator to remove any solvent before it is discharged into a sump which should be located within the fenced area but should not be closer than eight meters to the fence.

**11. Ventilation.**-The solvent extraction plant shall be well ventilated and if the plant is housed in a building, the building shall be provided with mechanical ventilation with provision for at least six air changes per hour.

**12. House-keeping.**-(a) Solvent shall not be stored in an area covered by the solvent extraction plant except in small quantities which shall be stored in approved safety cans;

(b) Waste materials such as oily rags, other wastes and absorbents used to wipe off solvent and paints and oils shall be deposited in approved containers and removed from the premises at least once a day ;

(c) Space with the solvent extraction plant and within 15 meters from the plant shall be kept free from any combustible materials and any spills of oils or solvent shall be cleaned up immediately.

**13. Examination and repairs.**-(a) The solvent extraction plant shall be examined by the competent person to determine any weakness or corrosion and wear once in every 12 months. Report of such examination shall be supplied to the Inspector-cum-Facilitator with his observation as to whether or not the plant is in safe condition to work.

(b) No repairs shall be carried out to the machinery or plant except under the direct supervision of the competent person.

(c) Facility shall be provided for purging the plant with inert gas or steam before opening for cleaning or repairs and before introducing solvent after repairs.

**14. Operating personnel.**-The operation of the plant and machinery in the solvent extraction plant shall be in the charge of such duly qualified and trained persons as are certified by the competent person to be fit for the purpose and no other person shall be allowed to operate the plant and machinery.

**15. Vapour detection.**-A suitable type of flame- proof and portable combustible gas indicator shall be provided and maintained in good working order and a schedule of routine sampling of atmosphere at various locations as approved by the Chief Inspector-cum-Facilitator shall be drawn out and entered in a register maintained for the purpose.

**16. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in the solvent extraction plant.

SCHEDULE XXIV

## Fire Works Manufactory and Match Factories

(see rule 81)

**1. Application.**—The provisions of this Schedule shall apply to all manufactories and processes incidental thereto carried on in any Fire Works Manufactory or a match works and shall be in addition to and not in derogation of any provisions contained in other rules.

**2. Definition.**—(a) "Fire Works Manufactory" means any factory or such parts of any factory wherein the following chemicals or combination of chemicals and materials are being used for the manufacture or crackers, sparklers, caps, fuses, blasting powder and fireworks -

Saltpetre;	Pyrotechnic aluminium Powder;
Magnesium Powder;	Charcoal;
Potassium chloride;	Red Phosphorus;
Gum;	Dextrine;
Strontium Nitrate;	Gun Powder (Black Powder);
Copper Coated Wires;	Steel filings or iron filings;
G.I. Wire;	

(b) "Match works" means any establishment which manufactures safety matches or colour matches by the use of chemicals mentioned in clause (a).

(c) "Breathing apparatus" means a device covering mouth or nose with necessary connections by means of which a person using it in a poisonous asphyxiating or irritant atmosphere breathes ordinary air or any other suitable apparatus approved in writing by the Chief Inspector-cum-Facilitator in this behalf.

**3. Buildings.**—(a) The building of any fireworks manufactory or match factory shall conform to the standards prescribed under the Indian Explosives Act 1884 (Central Act IV of 1884), and the height of such buildings shall at no time be less than 3 meters;

(b) No building inside a fireworks manufactory shall have a first floor at any time;

(c) In Match works, provided with a first floor, there shall be 2 staircases leading from the first floor to the ground floor irrespective of the number of persons employed in the first floor and one of the staircases shall be of masonry construction or of non-inflammable materials;

(d) All doors shall open outwards and all the doorways shall be kept free from obstructions;

(e) All doors of workrooms shall not be less than 1.2 meters in width or less than 2 meters in height;

(f) The floors of all work rooms including mixing sheds shall be completely covered by a rubber sheet having a smooth surface and having a thickness of atleast 3 mm. If the floor cannot be covered by a single rubber sheet, more than one rubber sheet may be used, so that each sheet is overlapped by the other atleast 150 mm; and

(g) Mixing sheds in a fireworks manufactory shall be at a distance of 18 meters away from all other sheds if the quantity of chemical stored, handled or used in the mixing shed is less than 50 kilograms and be separated by baffle walls opposite to each exit of the mixing shed:

Provided that the distance shall be at least 21 meters, if the quantity of chemical stored, handled or used in the mixing shed exceeds 50 kilograms.

**4. House-keeping.**—(a) Every part of ways, works, machinery and plant shall be maintained in a clean and tidy condition;

(b) Any spillage of materials shall be cleaned without delay;

(c) Close platforms, passages and gangways shall be kept free of temporary obstructions.

**5. Electrical Equipment.**—(a) If at any time, use of electricity is allowed in the factory, all leads, etc., shall be in conduits with flame-proof junctions;

(b) Electrical supply shall never be through a lamp even with a non-conducting handle.

**6. Protective clothing.**—(a) Under no circumstances clothes made of artificial fiber like terelene, etc., be allowed inside the factory;

(b) All employees shall be supplied with asbestos aprons especially to cover the chest, gonads and thighs;

(c) Breathing apparatus shall be used in mixing sheds to avoid employees inhaling poisonous fumes in the event of an untoward reaction;

(d) In mixing sheds where aluminium and magnesium powders are used "anti-stat" foot-wear to combat static electricity shall be supplied;

(e) All protective equipments shall be maintained in an efficient condition and also shall be maintained in a clean and hygienic condition.

**7. Match Factories.**-In match factories,-

(i) the residue of the head composition shall not in any way be mixed with the residue of the friction composition ;

(ii) the rooms comprising the two mixing departments, namely, (a) head composition and (b) friction composition shall be entirely separated from each other and the drains from these two departments shall be kept entirely separate ;

(iii) rubbish containing the residues of the head composition and friction composition shall be kept and burnt separately ;

(iv) department in which completed matches (matches with heads on) are stored shall be separated from all other departments by means of fire-proof walls and doors providing adequate means of escape in case of fire :

Provided that the Chief Inspector-cum-Facilitator may, subject to such conditions, as he may deem necessary, exempt any factory in existence on the first January 1935, from the provisions of this clause;

(v) Splints, veneers and other materials in excess of the quantity required for the day's manufacture shall be kept in separate rooms of the factory where no manufacturing process is carried on. No manufactured material shall be stored anywhere in the factory compound for more than five days after the manufacture except in the storage godowns;

Provided that nothing contained in this clause shall apply to splints and veneers in cases stored in peeling and box making departments;

(vi) Store room for matches shall be entirely separated by fire-proof walls from the buildings used for manufacture

(vii) The racks in the dipped splints room shall have sides top and the rear part provided with non-inflammable materials.

(viii) The process of packing shall be done in an area away from the place of manufacture to the satisfaction of the Inspector-cum-Facilitator; and

(ix) No child shall be employed or permitted to work in any process directly connected with the manufacturing process up to final production of match sticks.

**8. Precautions to be taken in connection with manufacture of fuses used in crackers, etc.-**

(a) Bundles of fuses shall be handled by carrying and not dragging them on the floor;

(b) Drying of fuses after wrapping shall be carried out on platforms away from workrooms;

(c) Cutting shall be done by experienced employees employed only for this purpose and under proper supervision;

(d) Cutting shall be done on a large masonry platform covered with a tarpaulin and kept free from grit and pebbles;

(e) Cutting shall be done on a raised platform so that employees can work standing. Cutting must be done by placing the fuse on wooden sleepers kept over blocks of wood. Brick shall not be used beneath the wooden sleepers; and

(f) Employees, while on dangerous operations, shall not wear clothing sewn with ferrous or steel buttons, buckles or attachments. They shall not carry on their persons, iron knives, keys, etc.

**9. General.**-(a) No person other than a factory employee and/or an inspecting officer or others connected with the manufacturing process shall be allowed to enter the working area;

(b) Cardboard containers and trays without steel nails shall be used for storage and day-to-day working purposes;

(c) During the manufacture of fuses only brass or non-ferrous knives shall be used and drying of fuses shall be away from all workrooms;

(d) Door mats shall be provided outside the workroom and near all drying platforms and where fuses are cut for the employees to clean their feet;

(e) At no time, mixing materials shall exceed the quantity that is required for the manufacture of mixing for half an hour operation only;

- (f) For filling up chemicals in the inner tubes of crackers, only aluminium or plastic rings shall be used and not galvanized iron rings;
- (g) Buckets, containers, hoops, locks, nails, screws, bolts, nuts, knives, scissors, hinges, latches etc., made up of iron shall not be used within the factory premises;
- (h) Wooden racks without iron nails shall be used for drying paper cap sheets, in amorces factories;
- (i) Wooden racks used for drying paper cap sheets shall be provided with asbestos or other fire resistant sheets on the three sides leaving the front side open;
- (j) Dried paper cap sheets shall be carried in wooden trays with four compartments (partitions) each compartment (partition) carrying a single sheet;
- (k) Each manufacturing shed of fireworks shall have atleast two doors facing each other. The doors provided to the work sheds of adjacent rows shall not face each other;
- (l) Not more than four persons shall be employed or allowed at any one time in any one building in which explosive is being manufactured;
- (m) Copper plates shall be fixed on the baffle wall of the chemical mixing shed and chemical filling shed; and the employees before entering those sheds, shall place their hands on the copper plates in order to discharge the electrostatic charges from their body and to protect them from any untoward fire or explosion;
- (n) Employees aged above 55 years shall be employed only in non-explosive areas;
- (o) No person, aged 50 years and above shall be employed in Fireworks Manufactory unless his eyesight including colour vision and his hearing capacity are examined and declared fit by a qualified ophthalmologist and ENT specialist, respectively, to work whether with or without use of corrective appliances. Such examinations shall be made atleast once in every two years. Record of examination or re-examination carried out shall be produced on demand to Inspector-cum-Facilitator at the time inspection;
- (p) Work benches and tables shall be provided for mixing and filling operations;
- (q) Blast walls shall be provided around the drying platform at a distance of 2 meters away from the drying platform. The height of the blast wall shall be atleast one foot more than that of the height of the drying platform;
- (r) In every Fireworks Factory, there shall be appointed a Supervisor with minimum qualification of B.Sc. (Chemistry) or Diploma in Chemical Engineering or its equivalent. He shall be fully conversant with the process of manufacture of fireworks and the associated hazards. These Supervisors shall undergo special training of fireworks safety as approved by the Chief Inspector-cum-Facilitator. Number of Supervisors shall be at the rate of 1 for every 50 employees. Manufacture of fireworks shall be carried out under the supervision of such Supervisors;
- (s) Factories which make fancy crackers shall have,-
- (i) separate colour pellet machine shed;
  - (ii) separate colour pellet drying shed; and
  - (iii) separate transit rock for storing colour pellets.
- (t) Not more than one manufacturing activity at any one item of crackers shall be allowed or required to be done in any working shed at a time;
- (u) The employees involved in mixing and filling operations shall have an education qualification of at least tenth standard;
- (v) The drying platform meant for Rockets and Fire Works of flying nature shall be provided with a temporary roof of a strong aluminium mesh cover resting on the baffle walls, for protection from direct sunlight;
- (w) There shall be provided at least two burning pits in every factory and each burning pit shall be at a minimum distance of 62 meters away from the working sheds;
- (x) The collected waste shall be disposed in the burning pit after the working hours of the factory on the same day in the presence of the Foreman by a trained employee;
- (y) Wind direction indicator shall be provided in each factory;
- (z) No electronic appliances such as mobile phones, transistors etc., shall be allowed in the premises, where fireworks are manufactured, handled, stored or used;

(aa) The mixed chemicals shall be used on the same day. No mixed chemical (fireworks) composition, dry or wet shall be kept in the factory at the close of any working day. Such residual composition shall be safely destroyed at the close of the day;

(ab) Fireworks factory ordinarily employing 250 employees or more shall appoint a qualified Safety Officer as per the Code;

(ac) No manufacturing activity shall be carried on in Fireworks factory between 6.00 pm. to 6.00 am.

**10. Display of notices.**—The following notices in the local language understood by the majority of employees shall be displayed at a conspicuous place in the factory,—

(a) Smoking is strictly prohibited.

(b) No one shall carry matches or other igniting materials into the factory.

(c) No employee shall be in a workroom or area where no work has been assigned to him.

(d) If anything untoward happens in any shed all employees shall dash to the gates which serve as outgates of the factory and in no circumstances be curious to see what has happened in the affected shed.

(e) Any spillage of materials should be cleaned without any delay.

(f) Wearing of clothes made of artificial fiber like terene, etc., is prohibited. Clothing's sewn with ferrous or steel buttons or buckles or attachments should not be worn.

(g) Foot wears with iron nails should not be used.

(h) employees should not carry with themselves iron knives and iron keys, etc.

**11. First-aid boxes.**—(a) The required materials shall be kept in the First-Aid Box. In addition, four stretchers shall be available for every twenty persons employed in the premises.

(b) Adequate amount of burn dressings and 24 ounces of coconut oil to be used as the first remedy for burns shall be kept in the First-Aid Box.

(c) Persons who are in charge of First-Aid Boxes shall be those who possess the certificate granted by the St. John's Ambulance Association for rendering first-aid.

**12. Medical Examination by Medical Officer.**—(1) Every employee employed in the process of mixing, filling and handling of chemicals in the fire-works factories shall be medically examined by a Medical Officer within fifteen days of his first employment. Such medical examination shall include skin test for Dermatitis, Pulmonary Function Test and Chest X-ray. No employee shall be allowed to work after fifteen days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said process shall be re-examined by a Medical Officer at least once in every six months. Such re-examination shall, wherever the Medical Officer considers appropriate, include all the tests specified in sub-paragraph (1) except Chest X-ray which will be done once in three years.

(3) The Medical Officer after examining an employee shall issue a Certificate of Fitness in **FORM XXIII**. The record of re-examination carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Occupier of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The Certificate of Fitness and the Health Register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in those documents and should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above, shall be re-employed or permitted to work in the said processes unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**13. Prohibition relating to Pregnant Women.**— No pregnant women shall be employed or permitted to work on operation where chemicals are mixed and where fuses are cut.

## SCHEDULE XXV

**Manufacture or Manipulation of Manganese and its Compounds**

(see rule 81)

**1. Definitions.**-For the purpose of this Schedule,-

(a) "Manganese Process" means processing, manufacture or manipulation of manganese or any compound of manganese or any ore or any mixture containing manganese.

(b) "First employment" means first employment in any manganese process and includes also re-employment in any manganese process following any cessation of employment for a continuous period exceeding 3 calendar months ;

(c) "Manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping or otherwise handling of manganese or a compound of manganese or any mixture containing manganese ;

(d) "Efficient exhaust ventilation" means localized ventilation effected by mechanical means for the removal of dust or fume or mist at its source of origin so as to prevent it from escaping into the atmosphere of any place where any work is carried on. No draught shall be deemed to be efficient which fails to remove the dust or fume or mist at the point where it is generated and fails to prevent it from escaping into and spreading into the atmosphere of a work place.

**2. Application.**-The Schedule shall apply to every factory in which or in any part of which any manganese process is carried on.

**3. Isolation of a process.**-Every manganese process which may give rise to dust, vapour or mist containing manganese shall be carried on in a totally enclosed system or otherwise effectively isolated from other processes so that other plants and process and other parts of the factory and persons employed on other work or process may not be affected by the same.

**4. Ventilation of process.**-No process, in which any dust, vapour or mist containing manganese is generated, shall be carried out except under a efficient exhaust ventilation which shall be applied as near to the point of generation as practicable.

**5. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**6. Medical Examination by Medical officer.**-(1) Every employee employed in any manganese processes shall be examined by a Medical officer within 15 days of his first employment. Such examination shall include tests for detection of serum calcium, serum phosphate and manganese in blood and urine and also include steadiness tests and other neuromuscular co-ordination tests. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in a manganese process shall be re-examined by a Medical Officer at least once in every three calendar months and such examinations shall, wherever the Medical Officer considers appropriate, include all the tests in sub-paragraph (1).

(3) The Medical Officer after examining an employee shall issue a certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under sub- paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical officer is of the opinion that the employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the Health Register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process, shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said process unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.



**7. Personal Protective Equipment.**-(1) The Occupier of the factory shall provide and maintain in good and clean condition suitable overalls and head coverings for all persons employed in any manganese process and such overalls and head coverings shall be worn by the persons while working on a manganese process.

(2) The Occupier of the factory shall provide suitable respiratory protective equipment for use by employees in emergency to prevent inhalation of dusts, fumes or mists sufficient number of complete sets of such equipment shall always be kept near the workplace and the same shall be properly maintained and kept always in a condition to be used readily.

(3) The Occupier shall provide and maintain for the use of all persons employed, suitable accommodation for the storage and make adequate arrangements for cleaning and maintenance of personal protective equipment.

**8. Food, drinks prohibited in the workrooms.**-No food, drink, pan and supari or tobacco shall be allowed to be brought into or consumed by any employee in any work room in which any manganese process is carried on.

**9. Mess-room.**-There shall be provided and maintained for the use of the persons employed in a manganese process a suitable mess-room which shall be furnished with sufficient tables and benches and adequate means for warming of food. The mess room shall be placed under the charge of a responsible person and shall be kept clean.

**10. Washing facilities.**-There shall be provided and maintained in a clean state and in good condition, for the use of persons employed on manganese process a wash place under cover, with either

(1) a trough with a smooth impervious surface fitted with a waste pipe without plug. The trough shall be of sufficient length to allow at least 60 centimeters for every ten such persons employed at any one time, and having a constant supply of water from tap or jets above the trough at intervals of not more than 60 centimeters, or at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water; and

(2) sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.

**11. Cloak-room.**-If the Chief Inspector-cum-Facilitator so requires there shall be provided and maintained for the use of persons employed in manganese process a cloak-room for the clothing put off during working hours with adequate arrangement for drying the clothing.

**12. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any Manganese process.

**13. Cautionary placard instructions.**- Cautionary notices in the following form and printed in the language of the majority of the employees employed, shall be affixed in prominent places in the factory where they can be easily and conveniently read by the employees and arrangements shall be made by the occupier to instruct periodically all employees employed in a manganese process regarding the health hazards connected with their duties and the best preventive measures and methods to protect themselves. The notices shall always be maintained in a legible condition.

#### CAUTIONARY NOTICE

##### Manganese and Manganese Compounds-

1. Dust fumes and mists of Manganese and Compounds are toxic when inhaled or when ingested.
2. Do not consume food or drink near the work place.
3. Take a good wash before taking meals.
4. Keep the working area clean.
5. Use the protective clothing and equipments provided.
6. When required to work in situations where dusts, fumes, or mists are likely to be inhaled, use respiratory protective equipments provided for the purpose.
7. If you get severe headaches, prolonged sleeplessness or abnormal sensations on the body, loose gait, speech interference and loss of virility, report to the Occupier who would make arrangements for your examination and treatment.

#### SCHEDULE XXVI

##### CARBON DISULPHIDE PLANTS

(see rule 81)

**1. Application.**-This Schedule shall apply to all electric furnaces in which carbon disulphide is generated and all other plants where carbon disulphide, after generation is condensed, refined and stored.

These rules are in addition to and not in derogation of any of the provisions of the Act and the rules made thereunder.

**2. Construction, installation and operation.**-(a) The buildings in which electric furnaces are installed and carbon disulphide after generation is condensed and refined shall be segregated from other parts of the factory and shall be of open type to ensure optimum ventilation and the plant layout shall be such that only a minimum number of employees are exposed to the risk of any fire or explosion at any one time.

(b) Every electric furnace and every plant in which carbon disulphide is condensed, refined and stored with all their fittings and attachments shall be of good construction, sound material and of adequate strength to sustain the internal pressure to which the furnace or the plant may be subjected and shall be so designed that carbon disulphide liquid and gas are in closed system during their normal working.

(c) The electric furnace supports shall be firmly grouted about 61 centimeters in concrete or by other effective means.

(d) Every electric furnace shall be installed and operated according to manufacturers' instructions and these instructions shall be clearly imparted to the personnel in charge of construction and operation.

(e) The instructions regarding observance of correct furnace temperature, sulphur dose, admissible current/power consumption and periodical checking of charcoal level shall be strictly complied with.

**3. Electrodes.**-(a) Where upper ring electrodes made of steel or used in the electric furnace, they shall be of seamless tube construction and shall have arrangement for being connected to cooling water system through a siphon built in the electrodes or through a positive pressure water-pump.

(b) The arrangement for cooling referred to in clause (a) shall be connected with automatic alarm system which will actuate in the event of interruption of cooling water in the electrodes and give visible and audible alarm signals in the control room and simultaneously stop power supply for the furnace operation and to stop the further supply of water. The alarm system and the actuating device shall be checked every day.

**4. Maintenance of charcoal level.**-When any electric furnace is in operation, it shall be ensured that the electrodes are kept covered with charcoal bed.

**5. Charcoal separator.**-(a) Cyclone type of charcoal separator shall be fitted on the off take pipe between the electric furnace and sulphur separator to prevent entry of pieces of char-coal into the condensers and piping.

(b) Any other design for gas off take pipe which does not allow charcoal pieces into the condensers and piping may be adopted.

**6. Rupture Discs and Safety Seal.**-(a) At least two rupture discs of adequate size which shall blow off at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top of the furnace or each through an independent pipe as close as possible to the furnace.

(b) A safety water seal shall be provided at the best possible location to ensure the maximum and effective operation of the rupture discs mentioned in (a) above.

**7. Pyrometer and Manometers.**-(a) Each electric furnace shall be fitted with adequate number of pyrometers (to give an indication of the temperature as correctly as reasonably practicable) at various points in the furnace. The dials for reading the temperature shall be located in the control room.

(b) Manometers or any other suitable devices shall be provided for indicating pressure

(i) in the off take pipe before and after the sulphur separator ; and

(ii) in primary and secondary condensers.

**8. Check Valves or Water Seals.**-All piping carrying carbon disulphide shall be fitted with check valves or water seals at suitable positions so as to prevent gas from flowing back into any electric furnace in the event of its shut down.

**9. Inspection and maintenance of Electric Furnaces.**-(a) Every electric furnace shall be inspected internally by a competent person

(i) before being placed in service after installation;

(ii) before being placed in service after reconstruction or repairs; and

(iii) periodically every time the furnace is opened for cleaning or replaced electrodes.

In respect of item (iii) if it is felt by operators that during dashing it is not necessary to inspect internally so as to conserve the heat in the furnace, internal inspection can be done away with.

(b) When an electric furnace is shut down for cleaning,-

(i) if removal of any part of the lining is resorted to, the condition of the shell shall be closely inspected, and

(ii) any plates forming shell found corroded to the extent that safety of the furnace is endangered shall be replaced:

**10. Maintenance of Records.**—The following hourly records shall be maintained in a logbook

(i) Manometer reading at the points specified in sub-clause (b) of clause 7.

(ii) Gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and secondary condensers.

(iii) Water temperature and flow of water through the siphon in the electrodes.

(iv) Primary and secondary voltages and current and energy consumed.

**11. Electrical apparatus, wiring and fittings.**—All buildings in which carbon disulphide is refined or stored shall be provided with electrical apparatus, wiring and fittings which shall afford adequate protection from fire and explosion.

**12. Prohibition relating to smoking.**—No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in buildings in which carbon disulphide is refined or stored, and a notice in the language understood by a majority of the employees shall be posted in the plant prohibiting smoking and carrying of matches, fire or naked light of other means of producing naked light or spark into such rooms.

**13. Means of escape.**—Adequate means of escape shall be provided and maintained to enable persons to move to a safe place as quickly as possible in case of an emergency. At least two independent staircases of adequate width shall be provided in every building housing the furnaces at reasonable intervals at opposite ends. These shall always be kept clear of obstructions and so designed as to afford easy passage.

**14. Warnings in case of fire.**—There shall be adequate arrangements for giving warnings in case of fire or explosion which shall operate on electricity and, in case of failure of electricity, by some mechanical means.

**15. Firefighting equipment.**—(a) Adequate number of suitable fire extinguishers or other fire-fighting equipment shall be kept in constant readiness for dealing with risks involved and depending on the amount and nature of materials stored:

(b) Clear instructions as to how the extinguishers or other equipment should be used shall be printed in the language which the majority of the employees employed understand. The instructions shall be affixed to each extinguisher or other equipment and the personnel trained in their use shall be supplied with the instructions.

**16. Bulk sulphur.**—(a) Open or semi-enclosed space for storage of bulk sulphur shall be sited with due regard to the dangers which may arise from sparks given off by nearby locomotive, etc., and precautions shall be taken to see that flames, smoke and matches and other sources of ignition do not come in contact with the clouds of dust arising during handling of bulk sulphur.

(b) All enclosures for bulk sulphur shall be of non-combustible construction, adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge.

(c) The bulk sulphur in the enclosures shall be handled in such a manner as to minimize the formation of dust clouds and no flame, smoke and matches or other sources of ignition shall be employed during handling and non-sparking tools shall be used whenever sulphur is shovelled or otherwise removed by hand.

(d) No repairs involving flames, heat or use of hand or power tools shall be made in the enclosure where bulk sulphur is stored.

**17. Liquid sulphur.**—Open flames, electric sparks and other sources of ignition, including smoke and matches, shall be excluded from the vicinity of molten sulphur.

**18. Training and supervision.**—(a) All electric furnaces and all plants in which carbon disulphide is condensed, refined or stored shall be under adequate supervision at all times while the furnaces and plant are in operation.

(b) Employees in charge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.

**19. Washing facilities.**—The occupier shall provide and maintain in a clean state and in good repair, for the use of all persons employed a wash-place under cover with at least one tap or stand-pipe, having a constant supply of clean water for every five such persons, the taps or stand-pipes being spaced not less than 120 centimeters apart with a sufficient supply of soap and clean towels, provided that towels shall be supplied individually to each employee if so ordered by the Inspector-cum-Facilitator. All the employees employed in sulphur storage handling and inching operations shall be provided with a nail brush.

**20. Personal Protective equipment.**—(a) Suitable goggles and protective clothing consisting of overalls without pockets, gloves and foot-wear shall be provided for the use of operatives:

(i) when operating valves or cocks controlling fluids, etc;

(ii) drawing off of molten sulphur from sulphur pots; and

(iii) handling charcoal or sulphur.

(b) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.

(c) Arrangements shall be made for the proper and efficient clearing of all such protective equipment.

**21. Cloak-rooms.**—There shall be provided and maintained for the use of all persons employed in the processes a suitable cloak-room for clothing put off during work hours and a suitable place separate from the cloak-room for the storage of overalls or working clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.

**22. Unauthorized persons.**—Only maintenance and repair personnel, persons directly connected with the plant operation and those accompanied by authorized persons shall be admitted into the plant.

#### SCHEDULE XXVII

#### Manufacture, Handling and use of Benzene

(see rule 81)

**1. Application.**—The provisions of this Schedule shall apply to all factories or parts thereof in which Benzene or substances containing Benzene are manufactured, handled or used.

**2. Definitions.**—For the purpose of this Schedule,—

(a) 'Substances containing benzene' means substances wherein benzene content exceeds 1 percent by volume;

(b) 'Substitute' means a chemical which is harmless or less harmful than benzene and can be used in place of benzene;

(c) 'Enclosed system' means a system which will not allow escape of benzene vapors to the working atmosphere;

(d) 'Efficient exhaust draught' means localized ventilation effected by mechanical means for the removal of gases, vapors, dusts or fumes so as to prevent them from escaping into the air of any workroom. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gases, vapors, fumes or dusts originate.

**3. Prohibition and substitution.**—(a) Use of benzene and substances containing benzene is prohibited in the following processes:—

(i) Manufacture of varnishes, paints and thinners; and

(ii) cleaning and degreasing operations.

(b) Benzene or substances containing Benzene shall not be used as a solvent or diluent unless the process in which it is used is carried on in an enclosed system or unless the process is carried on in a manner which is considered equally safe as if it were carried out in an enclosed system;

(c) Where suitable substitutes are available, they shall be used instead of Benzene or substances containing Benzene. This provision, however, shall not apply to the processes specified in Appendix A;

(d) The Chief Inspector-cum-Facilitator may, subject to confirmation by the Government, permit exemptions from the percentage laid down in clause 2 (a) and also from the provisions of sub-clause (b) temporarily under conditions and within limits of time to be determined after consultation with the employers and employees concerned.

**4. Protection against inhalation.**—(a) The process involving the use of Benzene or substances containing Benzene shall as far as practicable, be carried out in an enclosed system;

(b) Where, however, it is not practicable to carry out the process in an enclosed system, to workroom in which Benzene or substances containing Benzene are used, shall be equipped with an efficient exhaust draught or other means for the removal of Benzene vapors to prevent their escape into the air of the workroom so that the concentration of Benzene in the air does not exceed 25 parts per million by volume or 80 mg/m<sup>3</sup>;

(c) Air analysis for the measurement of concentration of Benzene vapors in air shall be carried out every 8 hours or at such intervals as may be directed by the Chief Inspector-cum-Facilitator at places where process involving use of Benzene is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose. If the concentration of Benzene vapors in air as measured by air analysis, exceeds 25 parts per million by volume or 80 mg/m<sup>3</sup> the Occupier shall forthwith report the concentration to the Chief Inspector-cum-Facilitator stating the reasons for such increase;

(d) Employees who for special reasons are likely to be exposed to concentration of Benzene in the air of the workroom exceeding the maximum referred to in clause (b) shall be provided with suitable respirators or face masks. The duration of such exposure shall be limited as far as possible.

**5. Measures against skin contact.**-(a) Employees who are likely to come in contact with liquid Benzene or liquid substances containing Benzene shall be provided with suitable gloves, aprons, boots and where necessary, vapour-tight chemical goggles made of material not affected by Benzene or its vapors.

(b) The protective wear referred to in sub-clause (a) shall be maintained in good condition and inspected regularly.

**6. Labeling.**-Every container holding Benzene or sub-stances containing Benzene shall have the word "Benzene" and approved danger symbols clearly visible on it and shall also display information on Benzene content, warning about leaky and warning about inflammability of the chemical.

**7. Improper use of Benzene.**-(a) The use of Benzene or substances containing Benzene by employees for cleaning their hands or their work clothing shall be prohibited;

(b) Employees shall be instructed on the possible dangers arising from such misuse.

**8. Prohibition of consuming food, etc., in workrooms.**-No employee shall be allowed to store or consume food or drink in the workroom in which Benzene or substances containing Benzene are manufactured, handled, or used. Smoking and chewing tobacco or pan shall be prohibited in such workrooms.

**9. Instruction as regards risks.**-Every employee on his first employment shall be fully instructed on the properties of Benzene or substances containing Benzene which he has to handle and of the dangers involved. Employees shall also be instructed on the measures to be taken to deal with in an emergency.

**10. Cautionary notices.**-Cautionary notices in the form specified in Appendix B and presented in the language easily read and understood by the majority of the employees shall be displayed in prominent places in the workrooms where Benzene or substances containing Benzene are manufactured, handled or used.

**11. Washing facilities, cloak-room and mess-room.**-In factories in which Benzene or substances containing Benzene are manufactured, handled or used, the Occupier shall provide and maintain in clean state and in good repair

(a) Washing facilities under cover of the standard of at least one tap for every 10 persons having constant supply of water with soap and a clean towel provided individually to each employee if so ordered by the Inspector-cum-Facilitator ;

(b) A cloak-room with lockers for each employee, having two compartments - one for street-clothing and one for work-clothing;

(c) A mess-room furnished with tables and benches with means for warming food, provided that where a canteen or other proper arrangements exist for the employees to take their meals, the requirements of mess-room shall be dispensed with.

**12. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall -

(a) employ a qualified Medical Practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**13. Medical Examination by the Medical officer.**-(1) Every employee employed in processes mentioned in paragraph 1, shall be examined by a Medical officer within 15 days of his first employment. Such examination shall include tests for detection of Phenol in urine and determination of urinary sulphide ratio and C.N.S. and Haematological tests. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical officer at least once in every twelve calendar months and such examinations shall, wherever the Medical officer considers appropriate, include all the tests specified in sub-paragraph (1). Further, every employee shall also be examined once in every three months by the factory Medical Officer.

(3) The Medical officer after examining an employee, shall issue a certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the Medical officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employees, he shall make a record of his findings in the said certificate and the Health Register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the

process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Medical officer, after further examination, again certifies him fit for employment in those processes.

**14. Prohibition relating to Pregnant Women.-** No pregnant women shall be employed or permitted to work in any workroom involving exposure to Benzene or substance containing Benzene.

#### APPENDIX A

[see clause 3(b)]

1. Production of Benzene.
2. Process where Benzene is used for chemical synthesis.
3. Motor spirits (used as fuel).

#### APPENDIX B

(see clause 10)

##### (a) The hazards—

- (i) Benzene and substances containing Benzene are harmful;
- (ii) Prolonged or repeated breathing of Benzene vapors may result in acute or chronic poisoning;
- (iii) Benzene can also be absorbed through skin which may cause skin and other diseases

##### (b) The preventive measures to be taken-

- (i) Avoid breathing of benzene vapors;
- (ii) Avoid prolonged or repeated contact of benzene with the skin;
- (iii) Remove benzene soaked or wet clothing promptly;
- (iv) If any time you are exposed to high concentration of benzene vapors and exhibit the sign and symptoms such as dizziness, difficulty in breathing, excessive excitation and losing of consciousness, immediately inform your occupier;
- (v) Keep all the containers of benzene closed;
- (vi) Handle, use and process benzene and substances containing benzene carefully in order to prevent their spillage on floor;
- (vii) Maintain good house-keeping;

##### (c) The protective equipment to be used -

- (i) the respiratory protective equipment in places where benzene vapors are present in high concentration;
- (ii) In emergency, use self-generating oxygen mask or oxygen or air cylinder masks;
- (iii) Wear hand gloves, aprons, goggles and gum boots to avoid contact of benzene with your skin and body parts.

##### (d) The first-aid measure to be taken in the case of acute benzene poisoning -

- (i) Remove the clothing immediately if it is wetted with benzene.
- (ii) If liquid benzene enters eyes, flush thoroughly for at least fifteen minutes with clean running water and immediately secure medical attention.
- (iii) In case of usual exposure to benzene vapour, call a physician immediately. Until he arrives do the following

If the exposed person is conscious:-

- (A) Move him to fresh air in open;
- (B) Lay down without a pillow and keep him quiet and warm.

If the exposed person is unconscious:-

- (a) Lay him down preferably on the left side with the head low;

(b) Remove any false teeth, chewing gum, tobacco or other foreign objects which may be in his mouth;

(c) Provide him artificial respiration in case difficulty is being experienced in breathing;

(d) In case of shallow breathing or cyanosis (blueness of skin, lips, ears, finger nails beds) he should be provided with medical oxygen or oxygen carbon di oxide mixture. If needed, he should be given artificial respiration. Oxygen should be administered by a trained person only.

#### SCHEDULE XXVIII

#### Operations involving High Noise and Vibration levels

(see rule 81)

#### PART-A

#### High Noise Levels

**1. Application.-** This Part of the schedule shall apply to all operations in any manufacturing process having high noise level.

**2. Definitions.-** For the purpose of this schedule, -

(a) "Noise" means any unwanted sound;

(b) "High noise level" means any noise level measured on the A-weighted scale is 85dB or above;

(c) "Decibel" means one-tenth of "Bel" which is the fundamental divisions of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of "Bels" denoting such a ratio being the logarithm to the base the of 10 of this ratio. The noise level (or the sound pressure level) 6 corresponds to a reference pressure of 20 x 10 Newton per square meter or 0.0002 dynes per square centimeter which is the threshold of hearing, that is, the lowest sound pressure level necessary to produce the sensation of hearing in average healthy listeners. The decibel in abbreviated form is dB;

(d) "Frequency" is the rate of pressure variations expressed in cycles per second or hertz;

(e) "dBA" refers to sound level in decibels as measured on a sound level meter operating on the A-weighting net work with slow meter response; and

(f) "A-weighting" means making graded adjustments in the intensities of sound of various frequencies for the purpose of noise measurement, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.

**3. Protection against noise.-** (1) In every factory, suitable engineering control or administrative measures shall be taken to ensure, so far as is reasonably practicable, that no employee is exposed to sound levels exceeding the maximum permissible noise exposure levels specified in Tables 1 and 2.

TABLE 1

PERMISSIBLE EXPOSURE IN CASES OF CONTINUOUS NOISE.

<i>Total time of exposure (continuous or a number of short term exposures) per day, in hours.</i>	<i>Sound pressure level in dBA</i>
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	107
½	110
¼	115

*Explanation.-*(1) No exposure in excess of 110 dBA is to be permitted.

(2) For any period of exposure falling in between any figure and the next higher or lower figure as indicated in column 1, the permissible sound pressure level is to be determined by extrapolation on a proportionate basis.

TABLE 2

PERMISSIBLE EXPOSURE LEVELS OF IMPULSIVE OR IMPACT NOISE.

<i>Peak sound pressure level in dB</i>	<i>Permitted number of impulses or impact per day.</i>
140	100
135	315
130	1,000
125	3,160
120	10,000

**Explanations.-**1. No exposure in excess of 140 dB peak sound pressure level is permitted.

2. For any peak sound pressure level falling in between any figure and the next higher or lower figure as indicated in column 1, the permitted number of impulses or impacts per day is to be determined by extrapolation on a proportionate basis.

(2) For the purposes of this part of the schedule, if the variations in the noise level involve maximum at intervals of one second or less, the noise is to be considered as a continuous one and the criteria given in Table 1 would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in Table 2 would apply.

(3) When the daily noise exposure is composed of two or more periods of noise exposure at different levels their combined effect should be considered, rather than the individual effect of each. The mixed exposure should be considered to exceed the limit value if the sum of the fractions.

$$C_1/T_1 + C_2/T_2 + \dots + C_n/T_n \dots \text{exceeds unit } P-1$$

Where the C<sub>1</sub>, C<sub>2</sub> etc. indicate the total time of actual exposure at a specified noise level and T<sub>1</sub>, T<sub>2</sub>, etc. denote the time of exposure permissible at that level. Noise exposure of less than 90 dBA may be ignored in the above calculation.

(4) (a) Where it is not possible to reduce the noise exposure to the levels specified in the Tables in sub – paragraph 1 of paragraph 3 by reasonably practicable engineering control or administrative measures, the noise exposure shall be reduced to the greatest extent feasible by such control measures, and each employee so exposed shall be provided with suitable ear protectors as per relevant National or International Standards so as to reduce the exposure to noise to the levels specified in the Tables in sub - paragraph 1 of paragraph 3.

(b) The Occupier shall provide personal hearing protectors to the employees.-

(i) so as to eliminate the risk to hearing or to reduce the risk to as low a level as is reasonably practicable.

(ii) after consultation with the employees concerned or their representative.

(iii) ensure the hearing protectors is full and properly fitted, periodically checked for the effectiveness, used and maintained in good working order and repair.

(iv) ensure that employees are given periodical training in the use, care and maintenance of the Personal hearing protectors.

(5) Where the ear protectors provided in accordance with sub-paragraph 3 of paragraph 4 and worn by an employee cannot still attenuate the noise reaching near his ear, as determined by subtracting the attenuation value in dBA of the ear protectors concerned from the measured sound pressure level, to a level permissible under as the case may be, the noise exposure period shall be suitably reduced to correspond to the permissible noise exposures specified in the Tables in sub - paragraph 1 of paragraph 3.

(6) (a) In all cases where the prevailing sound levels exceed the permissible levels specified in the Tables in sub - paragraph 1 of paragraph 3 there shall be administered an effective hearing conservation program which shall include among other hearing conservation measures, pre-employment and periodical auditory surveys conducted on employees exposed to noise exceeding the permissible levels, and rehabilitation of such employees either by reducing the exposure to the noise levels or by transferring them to places where noise levels are relatively less or by any other suitable means.

(b) Every employee employed in areas where the noise exceeds the maximum permissible exposure levels specified in the Tables in sub - paragraph 1 of paragraph 3 shall be subjected to an auditory examination by a Medical officer within 14 days of his first employment and thereafter, shall be re-examined at least once in every 12 months. Such initial and periodical examinations shall include tests which the Medical officer may consider appropriate and shall include determination of auditory thresholds for pure tones of 125, 250, 500, 1000, 2000, 4000 and 8000 cycles per second.



## Part-B

**High Vibration Levels**

**1. Applications.**—This Part of the Schedule shall apply to all operations in a manufacturing part of the process having high undesired vibrations.

**2. Definition.**—(a) “daily exposure” means the quantity of mechanical vibration to which an employee is exposed during a working day, which takes account of the magnitude and duration of the vibration;

(b) “Vibration” means a mechanical phenomenon where by oscillations occur about equilibrium point. The oscillations may be periodic or random;

(c) “high vibration” means any exposure greater than the exposure limit value and action value specified in paragraph - 3;

(d) “exposure action value” means the level of daily exposure set out in paragraph-3 for any employee which, if reached or exceeded, requires specified action to be taken to reduce risk;

(e) “exposure limit value” means the level of daily exposure for any employee which must not be exceeded, as specified in paragraph-3;

(f) “hand-arm vibration” means mechanical vibration which is transmitted into the hands or arms during a work activity as described in sub - paragraph-(1) of paragraph 3 ;

(g) “mechanical vibration” means vibration occurring in a piece of machinery or equipment or in a vehicle as a result of its operation; and

(h) “whole-body vibration” means mechanical vibration which is transmitted into the body, when seated or standing, through the supporting surface, during a work activity or as described in sub - paragraph-(2) of paragraph 3.

**3. Exposure limit values and action values.**—(1) For hand-arm Vibration.-

(a) the daily exposure limit value is 5 m/s<sup>2</sup> A(8);

(b) the daily exposure action value is 2.5 m/s<sup>2</sup> A(8), and daily exposure shall be ascertained on the basis set out in the relevant National/International Standards specified in table below.

(2) For whole body vibration.-

(a) the daily exposure limit value is 1.15 m/s<sup>2</sup> A(8);

(b) the daily exposure action value is 0.5 m/s<sup>2</sup> A(8), and daily exposure shall be ascertained on the basis set out in the relevant National / International Standards.

## TABLE

The Threshold Limit Values (TLVs) for exposure of the hand to vibration in X, Y or Z direction of axes in the three dimensional system shall be as given below:

<i>Total Daily Exposure Duration (hours)</i>	<i>Maximum value of frequency weighted acceleration (m/s<sup>2</sup>) in any direction</i>
4 to less than 8 hours	4
2 to less than 4 hours	6
1 to less than 2 hours	8
less than 1 hour	12

(3) Assessment of vibration exposure shall be made for each applicable direction (X, Y, Z) since vibration is a vector quantity (magnitude and direction). In each direction, the magnitude of the vibration during normal operation of the power tool, machine or work piece should be expressed by the root-mean-square (RMS) value of the frequency - weighted component acceleration, in units of meter per second squared (m/s<sup>2</sup>).

**4. Assessment of risk to health due to vibration at the work Place.**—(1) An occupier who carries out work which is liable expose any employee from vibration to shall make a suitable and sufficient assessment of the risk created by that work to the health and safety of those and the risk assessment shall identify the control measures that need to be taken.

(2) The risk assessment should be reviewed whenever it is felt the changes in the process makes the earlier risk assessment no longer valid.

**5. Engineering Control measures.**-(1) The occupier shall ensure that risk from the exposure of employees to vibration is either eliminated at source or, where this is not reasonably practicable, reduced to as low a level as is reasonably practicable.

(2) Where it is not reasonably practicable to eliminate risk at source pursuant to sub - paragraph 1 and an exposure action value is likely to be reached or exceeded, the employer shall reduce exposure to as low a level as is reasonably practicable by establishing and implementing a program of engineering control measures which are appropriate to this type of activity.

(3) The occupier shall ensure that the employees are provided with the following measures:-

(a) work equipment of appropriate ergonomic design which, taking account of the work to be done, produces the least possible vibration;

(b) the provision of auxiliary equipment which reduces the risk of injuries caused by vibration; and install appropriate maintenance programmes for work equipment, the workplace and workplace systems;

(4) Subject to above sub -paragraphs, the employer shall ensure that his employees are not exposed to vibration above an exposure limit value; and shall take necessary to identify the reasons for the limit being exceeded and take appropriate steps to reduce the exposure to vibration to below limit value.

Provided that where the exposure of an employees to vibration is usually below the exposure action value but varies markedly from time to time and may occasionally exceed the exposure limit value.

Provided further that any exposure to vibration averaged over one week is less than the exposure limit value and there is evidence to show that the risk from the actual pattern of exposure is less than the corresponding risk from constant exposure at the exposure limit value; and that the risk is reduced to as low a level as is reasonably practicable, taking into-account the special circumstances.

**6. Medical Examination.**-(1) The occupier shall ensure that the employees who are likely to be exposed to vibration at above exposure action value are subjected to periodical medical examination once in a year. The medical examination shall include general and physical examination as well as special test for Reynaud's phenomenon.

(2) The health record of employees shall be maintained by the occupier for a period of five years from the date of last test and produce to the Inspector-cum-Facilitator on demand.

(3) If at any time the Medical officer is of the opinion that the employee is no longer fit to work in the said process on the ground that continuance daring would involve danger to the health of the employee he shall make a record of his **fitness** in the certificate in **FORM XXIII** and the health register in **FORM XXIV**. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person declared unfit in such circumstances shall be provided with alternate placement facility unless he is fully incapacitated in the opinion of the Medical officer in which case the person affected shall be suitably rehabilitated.

**7. Personal Protective equipment.**-(1) The occupier shall ensure that the employees who are likely to be exposed to high level of vibration are provided with appropriate Personal Protective Equipment (PPE) and protective clothing conforming to national or international standards. Such Personal Protective Equipment should include hand gloves and safety shoes. The protective clothing shall be able to protect the employees from cold and damp.

(2) The Occupier shall ensure that employees are given periodical training in the use care and maintenance of the Personal Protective Equipment.

**8. Administrative Control Measures.**-(1) The occupier shall ensure that as far as reasonably practicable as all necessary control measures are taken to ensure that the unwanted vibrations do not affect the health of the employees employed in the process to which this part of schedule apply.

(2) The occupier shall provide all employees with information, instruction and training to be adopted to limit the exposure limit values and action values as set out in paragraph -3.

(3) Without prejudice to the generality of sub-paragraph 2 above, the information, instruction and training provided under that the said sub - paragraph shall include.-

(a) the exposure limit values and action values set out in paragraph 3;

(b) safe working practices to minimise exposure to vibration;

(c) suitable and sufficient information and training for employees, such that work equipment may be used correctly and safety, in order to minimise their exposure to vibration;

(d) limitation of the duration and magnitude of exposure to vibration;

(e) appropriate work schedules with adequate rest periods; and

(f) The information, instruction and training required by sub - paragraph (2) shall be updated to take accounted significant changes in the type of work carried out or the working methods used by the employer.

(4) The Occupier shall display pictorial cautionary notices/warning signs at conspicuous places where there are possibilities of employees being exposed to undesired high vibrations.

**9. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in the operations specified in paragraph 1 of Part-B of this schedule.

#### SCHEDULE XXIX

### Manufacture or Manipulation of Dangerous Pesticides

(see rule 81)

**1. Application.**-This schedule shall apply in respect of all factories or any part thereof in which the process of manufacture or manipulation of dangerous pesticide (hereinafter referred to as the said manufacturing process) is carried on.

**2. Definition.**-For the purpose of this schedule -

(a) "dangerous pesticides" means any product proposed or used for controlling, destroying or repelling any pest or for preventing growth or mitigating effects of such growth including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 and the rules made thereunder and any other products as may be notified from time to time by the Government;

(b) "manipulation" includes mixing, blending, formulating, filling, emptying, packing or otherwise handling ;

(c) "efficient exhaust draught" means localized mechanical ventilation for removal of smoke, gas, vapour dust, fume or mist so as to prevent them from escaping into the air of any workroom in which work is carried on. No exhaust draught shall be considered efficient if it fails to remove smoke generated at the point where such gas, fume, dust, vapour or mist originates from the processes; and

(d) "first employment" shall mean first employment in any manufacturing process to which this schedule applies and shall also include re-employment in the said manufacturing process following any cessation of employment for a continuous period exceeding three calendar months.

**3. Instruction to employees.**-Every employee on his first employment shall be fully instructed on the properties including dangerous properties of the chemicals handled in the said manufacturing process and the hazards involved. The employees shall also be instructed in the measures to be taken to deal with any emergency. Such instructions shall be repeated periodically.

**4. Cautionary notice and placards.**-Cautionary notices and placards in the form specified in the Appendix to this Schedule and printed in the language of the majority of the employees shall be displayed in all work places in which said manufacturing process is carried on so that they can be easily and conveniently read by the employees. Arrangements shall be made by the occupier of the factory to periodically instruct the employees regarding the health hazards arising in the said manufacturing process and methods of protection. Such notices shall include brief instructions regarding the periodical clinical tests required to be undertaken for protecting health of the employees.

**5. Food, drink and smoking prohibited.**-(1) No food, drink, tobacco, pan or supari shall be brought into or consumed by any employee in any workroom in which the said manufacturing process is carried out.

(2) Smoking shall be prohibited in any workroom in which the said manufacturing process is carried out.

**6. Protective clothing and protective equipment.**-(1) Protective clothing consisting of long pants and shirts or overalls with long sleeves and head coverings shall be provided for all employees employed in the said manufacturing process.

(2) (a) Protective equipment consisting of rubber gloves, gum boots, rubber aprons, chemical safety goggles and respirators shall be provided for all employees employed in the said manufacturing process.

(b) Gloves, boots, aprons shall be made from synthetic rubber where a pesticide contains oil.

(3) Protective clothing and equipment shall be worn by the employees supplied with such clothing and equipment.

(4) Protective clothing and equipment shall be washed daily from inside and outside if the employees handle pesticides containing nicotine or phosphorous and shall be washed frequently if handling other pesticides.

(5) Protective clothing and equipment shall be maintained in good repair.

**7. Floors and work-benches.**-(1) Floors in every work-room where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface.

(2) Floor shall be maintained in good repair, provided with adequate slope leading to a drain and thoroughly washed once a day with hose pipe.

(3) Work-benches where dangerous pesticides are manipulated shall be made of smooth, non-absorbing material preferably stainless steel and shall be cleaned at least once daily.

**8. Spillage and waste.**-(1) If a dangerous pesticide during its manipulation splashes or spills on the work-bench, floor or on the protective clothing worn by an employee, immediate action shall be taken for thorough decontamination of such areas or articles.

(2) Cloth, rags, paper or other material soaked or soiled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover. Contaminated waste shall be destroyed by burning at least once a week.

(3) Suitable deactivating agents, where available shall be kept in a readily accessible place for use while attending to a spillage.

(4) Easy means of access shall be provided to all parts of the plant for cleaning, maintenance and repairs.

**9. Empty containers used for dangerous pesticides.**-Containers used for dangerous pesticides shall be thoroughly cleaned of their content and treated with an inactivating agent before being descended or destroyed.

**10. Manual handling.**-(1) A dangerous pesticide shall be required or allowed to be manipulated by and except by means of a long handled scoop.

(2) Direct contact of any part of the body with a dangerous pesticide during its manipulation shall be avoided.

**11. Ventilation.**-(1) In every workroom or area where a dangerous pesticide is manipulated, adequate ventilation shall be provided at all times by the circulation of fresh air.

(2) Unless the process is completely enclosed, the following operations during manipulation of a dangerous pesticide shall not be undertaken without an efficient exhaust draught

(a) emptying a container holding a dangerous pesticide;

(b) blending a dangerous pesticide;

(c) preparing a liquid or powder formulation containing a dangerous pesticide; and

(d) changing or filling a dangerous pesticide into a container, tank hopper or machine or small sized containers.

(3) In the event of a failure of the exhaust or draught provided on the above operation, the said operations shall be stopped forthwith.

**12. Time allowed for washing.**-(1) Before each meal and before the end of the day's work at least ten minutes in addition to the regular rest interval shall be allowed for washing to each employee engaged in the manipulation of dangerous pesticide.

(2) Every employee engaged in the manipulation of dangerous pesticides shall have a thorough wash before consuming any food and also at the end of the day's work.

**13. Washing and bathing facilities.**-(1) There shall be provided and maintained in a dean state and in good repair for the use of all employees employed in the factory where the said manufacturing process is carried on, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 5 persons employed.

(2) The washing places shall have stand pipes placed at intervals of not less than one meter.

(3) Not less than one half of the total number of washing places shall be provided with bathrooms.

(4) Sufficient supply of clean towels made of suitable material shall be provided :

Provided that such towels shall be supplied individually for each employee if so ordered by the Inspector-cum-Facilitator.

(5) Sufficient supply of soap and nail brushes shall be provided.

**14. Cloakroom.**-There shall be provided and maintained for the use of all employees employed in the factory where the said manufacturing process is carried on:

(a) a cloakroom for clothing put off during working hours with adequate arrangements for drying clothing, if wet and

(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 7.

**15. Mess-room.**-(1) There shall be provided and maintained for the use of all employees employed in the factory in which the said manufacturing process is carried on and remaining on the premises during the rest intervals, a suitable mess-room which shall be furnished with --

(a) sufficient tables and benches with back rest, and

(b) adequate means for warming food.

(2) The mess room shall be placed under the charge of a responsible person and shall be kept clean.

**16. Manipulation not to be undertaken.**-Manufacture or manipulation of a pesticide shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector-cum-Facilitator.

**17. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified Medical Practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**18. Medical Examination by Medical Officer.**- (1) Every employee employed in the processes mentioned in paragraph 1 shall be examined by a Medical Officer within 15 days of his first employment. Such examination in respect of Halogenated Pesticides, shall include tests for determination of the chemical in blood and in fat tissues, EEG abnormalities and memory tests, in respect of organo phosphorous compounds, such examination shall include test for depression of cholinesterase in plasma and red blood cells. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said processes shall be re-examined by a Medical Officer at least once in every six calendar months. Such examinations shall, wherever the Medical Officer considers appropriate, include the tests specified in sub-paragraph (1). Further every employee employed in the said processes shall also be examined once in every three months by the factory Medical Officer.

(3) The Medical Officer after examining an employee, shall issue a certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the Health Register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

**19. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any room in which manufacture or manipulation of dangerous pesticide is carried on.

#### APPENDIX

(see paragraph 4)

#### CAUTIONARY NOTICE

##### Insecticides and Pesticides

1. Chemicals handled in this plant are poisonous substances

2. Smoking, eating food or drinking, chewing tobacco in this area is prohibited. No food stuff or drink shall be brought in this area.

3. Some of these chemicals maybe absorbed through skin and may cause poisoning.

4. A good wash shall be taken before meals.
5. A good bath shall be taken at the end of the shift.
6. Protective clothing and equipment supplied shall be used while working in this area.
7. Containers of pesticides shall not be used for keeping food stuffs.
8. Spillage of the chemicals on any part of the body or on the floor or work bench shall be immediately washed away with water.
9. Clothing contaminated due to splashing shall be removed immediately.
10. Scrupulous cleanliness shall be maintained in this area.
11. Do not handle pesticides with bare hands; use scoops provided with handle.
12. In case of sickness like nausea, vomiting, giddiness, the Occupier should be informed who will make necessary arrangements for treatment.
13. All employees shall report for the prescribed medical tests regularly to protect their own health.

#### SCHEDULE XXX

#### Manufacture of Rayon by Viscose Process

(see rule 81)

##### 1. Definitions.-For the purpose of this schedule

- (a) "approved" means approved for the time being in writing by the Chief Inspector-cum-Facilitator ;
- (b) "breathing apparatus" means a helmet or face piece with necessary connections by means of which the person using it in a poisonous, asphyxiating or irritant atmosphere breathes unpolluted air ; or any other approved apparatus ;
- (c) "churn" means the vessel in which alkali cellulose pulp is treated with carbon disulphide;
- (d) "dumping" means transfer of cellulose xanthate from a dry churn to a dissolver ;
- (e) "efficient exhaust draught" means a localized ventilation by mechanical means for the removal of any gas or vapour, so as to prevent it from escaping into the air or any place in which work is carried on. No draught shall be deemed to be efficient if it fails to control effectively any gas or vapour generated at the point where such gas or fume originates;
- (f) "fume process" means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;
- (g) "life belt" means a belt made of leather or other suitable material which can be securely fastened round the body with a suitable length of rope attached to it, each of which is sufficiently strong to sustain the weight of a man ;
- (h) "protective equipment" means apron, goggles, face shields, footwear, gloves and overalls made of suitable materials.

**2. Ventilation.**-(1) In all workrooms where a fume process is carried on, adequate ventilation by natural or mechanical means shall be provided so as to control, in association with other control measures, the concentration of carbon-disulphide and hydrogen sulphide in the air of every work environment within the permissible limits.

(2) Notwithstanding the requirements in sub-paragraph (1), an efficient exhaust draught shall be provided and maintained to control the concentration of carbon-disulphide and hydrogen sulphide in the air at the following locations :

- (a) dumping hoppers of dry churns;
- (b) spinning machines;
- (c) trio rollers and cutters used in staple fiber spinning ;
- (d) hydro-extractors for yarn cakes;
- (e) after treatment processes ; and
- (f) spin baths.

(3) In so far as the spinning machines and trio rollers and cutters used in staple fiber spinning are concerned, they shall be, for the purpose of ensuring the effectiveness of the exhaust draught to be provided as required in sub-paragraph (1), enclosed as fully as practicable and provided with suitable shutters in sections to enable the required operations to be carried out without giving rise to undue quantities of carbon-di-sulphide and hydrogen sulphide escaping to the work environment

(4) No dry churn shall be opened after completion of reaction without initially exhausting the residual vapors of carbon-di-sulphide by operation of a suitable and efficient arrangement for exhausting the vapors which shall be continued to be operated as long as the churn is kept opened.

(5) Whenever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraphs (2), (3) and (4) is ineffective, fails, or is stopped for any purpose whatsoever, all persons shall be required to leave the work areas where the equipment or processes specified in the above said sub- paragraphs are in use, as soon as possible, and in any case not later than 15 minutes after such occurrence.

(6)(i) All ventilating systems provided for the purposes as required in sub-paragraphs (2), (3) and (4) shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations of test shall be rectified forthwith.

(ii) A register containing particulars of such examinations and tests, and the state of the systems and the repairs or alterations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector-cum-Facilitator.

**3. Waste from spinning machines.**-Waste yarn from the spinning machines shall be deposited in suitable containers provided with close fitting covers. Such waste shall be disposed off as quickly as possible after decontamination.

**4. Linking of dry churns.**-The inside surface of all dry churns shall be coated with a non-sticky paint so that cellulose xanthate will not stick to the surface of the churn, such coating shall be maintained in good condition.

**5. Air monitoring.**-(1) To ensure the effectiveness of the control measures, monitoring of carbon-disulphide and hydrogen sulphide in air shall be carried out once at least in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purposes.

(2) For the purpose of the requirement in sub-paragraph (1), instantaneous gas detector tubes shall not be used. Samples shall be collected over a duration of not less than 10 minutes and analyzed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector-cum-Facilitator.

(3) If the concentration of either carbon disulphide or hydrogen sulphide exceeds the permissible limits for such vapour or gas as laid down in **rule 97** suitable steps shall be taken for controlling the concentrations in air of such containers. A report of such occurrences shall be sent to the Chief Inspector-cum-Facilitator forthwith.

**6. Prohibition to remain in fume process room.**-No person during his intervals for meal, or rest shall remain in any room wherein fume process is carried on.

**7. Protective equipment.**-(1) The occupier shall provide and maintain in good condition protective equipment as specified in the Table for use of persons employed in the processes referred to therein.

THE TABLE

<i>Process</i>	<i>Protective equipment</i>
(1)	(2)
1. Dumping.	Overalls, face-shields, gloves and footwear - all made of suitable material.
2. Spinning.	Suitable aprons, gloves and footwear.
3.Process involving or likely to involve contact with viscose solution.	Suitable gloves and footwear.
4. Handling of Sulphur.	Suitable Chemical goggles.
5. Any other process involving contact with hazardous chemicals.	Protective equipment as may be directed by the Chief Inspector-cum-Facilitator by an order in writing.

2) A suitable room, rooms or lockers shall be provided exclusively for the storage of all the protective equipment supplied to employees and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

**8. Breathing apparatus.**-(1) There shall be provided in every factory where fume process is carried on, sufficient supply of,

- (a) breathing apparatus;
- (b) oxygen and suitable appliances for its administration ; and
- (c) life belts.

(2) (i) The breathing apparatus and other appliances referred to in sub-paragraph (1) shall be maintained in good condition and kept in appropriate locations so as to be readily available.

(ii) The breathing apparatus and other appliances referred to in clauses (a) and (b) of sub-paragraph (1) shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.

(iii) A record of the maintenance and of the condition of the breathing apparatus and other appliances referred to in sub-clause (1) shall be entered in a register provided for that purpose which shall be readily available for inspection by an Inspector-cum-Facilitator.

(3) Sufficient number of employees shall be trained and periodically re-trained in the use of breathing apparatus and administering artificial respiration so that at least two such trained persons would be available during all the working hours in each room in which fume process is carried on.

(4) Breathing apparatus shall be kept properly labeled in clean, dry, light proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.

(5) No person shall be employed to perform any work specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment.

(6) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

**9. Electric fittings.**-All electric fittings in any room in which carbon-disulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead sheathed.

**10. Prohibition relating to smoking, etc.**- No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in the language understood by the majority of the employees shall be posted in prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms.

Provided that fire, naked light or other means of producing a naked light or spark may be carried on in such room only when required for the purpose of the process itself under the direction of a responsible person.

**11. Washing and bathing facilities.**-(1) There shall be provided and maintained in a clean state and in good repair for the use of all employees employed in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 25 persons employed.

(2) The washing places shall have stand pipes placed at intervals of not less than one meter.

(3) Not less than one half of the total number of washing places shall be provided with bathrooms.

(4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each employee if so ordered by the Inspector-cum-Facilitator.

(5) Sufficient supply of soap and nail brushes shall be provided.

**12. Rest room.**-(1) A rest room shall be provided for the employees engaged in doffing operations of filament yarn spinning process.

(2) Such rest room shall be provided with fresh air supply and adequate seating arrangement.

**13. Cautionary notice and instructions.**-(1) The following cautionary notice shall be prominently displayed in each fume process room: -

#### CAUTIONARY NOTICE

1. Carbon disulphide (CS) and Hydrogen Sulphide (H<sub>2</sub>S) which may be present in this room are hazardous to health.
2. Follow safety instructions.
3. Use protective equipment and breathing apparatus as and when required.
4. Smoking is strictly prohibited in this area.

This notice shall be in a language understood by the majority of the employees and displayed where it can be easily and conveniently read. If any employee is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.



(2) Arrangements shall be made to instruct each employee employed in any room in which a fume process is carried on regarding the health hazards connected with their work and the preventive measures and methods to protect themselves. Such instructions shall be given on his first employment and repeated periodically.

(3) Simple and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon disulphide and hydrogen sulphide. Those instructions shall be displayed in the concerned areas and employees shall be instructed and trained in the actions to be taken in such emergencies.

**14. Medical facilities and records of examinations and tests.**-(1) The occupier of each factory to which the schedule applies, shall -

(a) employ a qualified medical officer for medical surveillance of the employees employed in the fume process whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical officer all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examination and appropriate tests carried out by the said medical officer shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**15. Medical examination by the Medical Officer.**-(1) Every employee employed in the fume process shall be examined by a Medical Officer within 15 days of his first employment. Such examination shall include tests for estimation of exposure co-efficient (iodine azide test in urine) and cholesterol, as well as Electrocardiogram (ECG) and Central Nervous System (CNS) tests. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the fume process shall be re-examined by a Medical Officer at least once in every twelve calendar months. Such examination shall wherever the Medical Officer considers appropriate, include all the tests as specified in sub-paragraph (1).

(3) The Medical Officer after examining an employee, shall issue a certificate of fitness in **FORM XXV**. The record of re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Occupier of the factory. The record of each examination carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Occupier of the factory. The records of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Medical Officer in a health register in **FORM XXIV**.

(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the fume process on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the fume process.

The persons so suspended from the process shall be provided with alternative placement facilities unless he is fully incapacitated in the opinion of the Medical Officer in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the fume process unless the Medical Officer, after further examination again certifies him fit for employment in such process.

#### SCHEDULE XXXI

#### Flammable Liquefied or Compressed Gases and Highly Flammable Liquids

(see rule 81)

**1. Application.**-Provisions of this Schedule shall apply to all factories where flammable liquefied or compressed gases or highly flammable liquids are manufactured, stored, handled used (sic.).

**2. Definitions.**-For the purposes of this Schedule,-

(a) "bulk storage " means bullet or Horton sphere or mounded vessel or portable cylinders used for storage of flammable liquefied or compressed gases or highly flammable liquids, which are having cumulative water storage capacity exceeding one thousand liters;

(b) "bullet" means a horizontal cylindrical pressure vessel with hemispherical or dished ends used for storage of flammable liquefied or compressed gas;

(c) "explosive mixture" means a mixture of combustion agent (oxidizing substance in gaseous, liquid or solid state) and a fuel (oxidisable substance in gaseous, liquid or solid state) in such proportions that it could give rise to a very rapid and violent oxidation reaction, liberating more kinetic energy than is dissipated through conduction and convection, ultimately causing practical effect of explosion ;

(d) "fire proof " means a passive means of protection of a structure or equipment or vessel from exposure to direct fire or flame impingement or prolonged exposure to high intensity radiant thermal flux, by the application of a coating of certain heat-resistant substance or mixture of a specified rating ;

(e) "fire safe " means a provision of dual seating to control leakage to acceptable level, even after damage, due to fire, as applied to valves ;

(f) "flammable compressed gas " means flammable compressed gas as defined in rule 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Explosives Act, 1884 (Central Act IV of 1884) ;

(g) "flammable liquefied gas " means a flammable gas kept in liquefied state by the application of pressure at normal ambient temperature, 13% (thirteen percentage) or less of which by volume with air forms a flammable mixture or which has a flammable range with air of atleast 12% (twelve percentage) points regardless of the lower flammable limits;

(h) "gas free " means a condition when the concentration of a flammable gas in an equipment or a vessel is well below the threshold limits (lower explosive limit), so, that it is safe for a man to enter into the equipment or vessel or to conduct "hot work " there, as the case may be ;

(i) "highly flammable liquid " means any liquid including its solution, emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934 (Central Act XXX of 1934) gives off flammable vapors at a temperature less than 32 degrees Centigrade;

(j) "Horton sphere" means a spherical Pressure Vessel, supported vertically and is used for the storage of flammable liquefied or compressed gas;

(k) "hot work " means an activity which may produce enough heat or spark to ignite a flammable or explosive mixture;

(l) "Mounded vessel" means a pressure vessel for the storage of flammable liquefied or compressed gas, which is sited above ground and is completely covered by a mound of earth or similar inert material except for nozzles, manhole covers, inspection covers fitted on the top of the vessel ;

(m) "purging" means an act of replacing the atmosphere inside a vessel or a container by an inert gas in such a manner as to prevent the formation of an explosive mixture;

(n) "purging into service" means the replacement of air in a closed system by an inert gas and then replacement of the inert gas by the flammable gas, vapour or liquid;

(o) "purging out of service" means the replacement of normal flammable content of a closed system by an inert gas and then replacement of the inert gas by air to such an extent that it is gas free and safe for any person to work ;

(p) "remote operated emergency valve" means a shut-off valve capable of remote operation which closes automatically on loss of the actuating power or fire engulfment and which is fire-safe.

**3. Storage.**-Every highly flammable liquid, flammable liquefied or compressed gas used in every factory shall be stored in bulk in suitable fixed storage tank made of adequate fire-resistant construction and located in a safe position under the ground or in the open.

**4. Location and spacing.**-Before selecting the location of any storage vessel, risk analysis study shall be carried out. Based on the risk analysis study, every storage vessel shall be located in the manner specified below:-

(a) the location shall not interfere with the movement of vehicles. The Risk Contour shall not intercept the public places such as assembly points, canteen, rest sheds and similar other locations;

(b) before locating any storage vessel, the soil- condition shall be assessed for the suitability of the superstructure;

(c) the storage vessel shall be sited above ground in open air and well-ventilated place;

(d) mounded vessels shall be so located that the manholes and pressure relief valves are in a well-ventilated position;

(e) the minimum safety distance between the storage vessels and from buildings, boundary or fixed ignition source shall be in accordance with the Static and Mobile Pressure Vessels (Unfired) Rules, 1981, as amended from time to time ;

(f) the storage vessels shall not be installed one above the other ;

(g) the bullets shall be so located that their longitudinal axes do not point towards other vessels, vital process equipment, control rooms, loading stations, nearby buildings or storage tanks containing hazardous materials;

(h) weeds, long grass, deciduous shrubs and trees and any combustible materials shall be removed from the storage vessel area within the licenced premises;

(i) the storage vessels shall not be located within the bunded enclosure of any heat source or other flammable liquids, gases or oxidizers ;

(j) the storage vessels, pumping equipment, loading and unloading facilities and vaporizers shall be located in an exclusive fenced compound of atleast 2 meters high along the perimeter of the safety zone'; such fenced compound shall have atleast two gates for the safe exit of persons and vehicles in case, of any emergency ;

(k) the number of storage vessels in one group shall not exceed six ;

(l) storage vessels within a group shall be so located that their longitudinal axes are parallel to each other;

(m) spheres and bullets shall not be grouped together and shall be provided with separate piping manifold, so as to avoid overfilling of a vessel due to gravitation from the other;

(n) the top surface of the storage vessels installed in a group shall be on the same plane so that the pressure safety valve blow-out from them do not affect the other;

(o) the flooring of the bullets or spheres shall be sloped in such a way that the spilled liquid or gas from any vessel shall not pass through any other vessel;

(p) the storage vessels shall not be located in such a way that the high tension electrical cables shall not pass through or near the licenced premises;

(q) storage vessels shall not be located in places which are susceptible to flooding;

(r) the grade for the storage vessels shall be elevated slightly above the surrounding terrain in order to ensure complete drainage of water from beneath the bottom of the vessels; and

(s) every container, vessel or tank used for storing highly flammable liquid or flammable liquefied or compressed gas shall be clearly and in bold letters marked "Danger — Highly Flammable Liquid " or "Danger — Flammable liquefied or Compressed Gas", as the case may be.

**5. Design of storage vessels.- (1) General.-** Each static vessel for the storage of flammable liquefied or compressed gas shall be provided with the following fittings and instruments which are suitable for use at pressures not less than the design pressure of the vessel and for the temperatures appropriate to the worst operating conditions namely: -

(a) at least two pressure safety valves connected independently to the vapour space;

(b) two independent liquid level indicators;

(c) a high level switch with alarm;

(d) a pressure gauge, connected to the vapour space; and

(e) a temperature gauge for measuring the temperature of the contents of the vessel.

**(2) Vessel connections.-**In every flammable liquefied or compressed gas storage vessel

(i) all the connections to the vessel shall be designed and fitted in accordance with the Design Code of Indian Standard-2825 or equivalent duly approved by the Chief Controller of Explosives;

(ii) not more than one nozzle shall be provided at its bottom for inlet and outlet purpose, apart from the drainage pipe;

(iii) the nozzle shall be a full-welded pipe and shall extend to a minimum distance of 3 (three) meters from the shadow of the vessel. A combination of manual and remote operated shut-down valve shall be provided on this bottom nozzle at a distance of atleast 3 (three) meter beyond the shadow of the vessel. The nozzle shall have a slope of 1.5 degree;

(iv) the nozzle shall be stress-relieved along with the vessel ;

(v) (sic) there shall not be any flange, instrument tapping or manhole fitted on this nozzle up to the combination of manual and remote operated valve ; and

(vi) an excess flow valve shall be provided for the nozzle on the body of the vessel.

**(3) Pressure Safety Valve.-** In every storage vessel

(i) the pressure safety valves provided shall be of spring-loaded type (weight-loaded safety valves shall not be used). Each of the pressure safety valves shall have 100% (hundred percent.) relieving capacity;

(ii) the pressure safety valves shall be set to discharge at a pressure not more than 110 (one hundred and ten) per cent. of the design pressure of the vessel and shall have a total relieving capacity adequate for limiting the pressure build-up in the vessel not more than 120 (one hundred and twenty) per cent. of the design pressure;

(iii) the discharge of the pressure safety valves shall be connected to flare system, if available. In case the flare system is not available, the discharge from the pressure safety valve shall be vented vertically upwards to atmosphere at a minimum elevation of 3 meter above the top of the vessel for effective dispersion of the discharge. A loose-fitting rain cap with a non-sparking chain attached to the vent pipe shall be fitted on top of the pressure safety valve;

(iv) an isolation valve shall be provided in between each pressure safety valve and the vessel. The arrangement of such isolation valve shall be so designed as to afford full required capacity flow through atleast one of the pressure safety valves ; and

(v) each pressure safety valve shall be visibly marked with the "set pressure" in Kg/Sq.Cm. (gauge) at which it will discharge, with its actual rate of discharge in cubic meter per minute of the gas at a pressure of 120 (one hundred and twenty) per cent. of the design pressure of the vessel.

**(4) Emergency shut-off valve.-** In every storage vessel

(i) all liquid and vapour connections, except those for pressure safety valves and the drainage connections of diameter less than 25 (twenty five) mm., shall have an emergency shut-off valve, such as an excess flow check valve or a remote operated valve;

Provided that the emergency shut-off valve is not required in cases where the connection to a vessel is not greater than three centimeter in diameter for liquid and eight centimeter in diameter for vapour;

(ii) where the emergency shut-off valve provided is of 'excess flow check valve' type, its closing rate of flow shall be below the rate which is likely to result due to a fracture of the line which it is protecting, calculated under the worst conditions. Excess flow check valve shall have a flow capacity sufficiently above the normal flow requirements to prevent valve chatter.

**(5) Bottom water draw-off or drain valve.-**In every storage vessel

(i) there shall be provided two drain valves at the bottom of the vessel between the remote operated valve and the first isolation valve. The length of the pipeline between the two drain valves shall be atleast 0.5 meter to minimize the risk of simultaneous obstruction of both valves due to freezing of any water present in the liquefied gas. The drain connections shall be not more than 50 (fifty) millimeter in diameter;

(ii) the first drain valve from the vessel shall be of gate type (throttle type), while the second drain valve shall be of quick shut-off type ;

(iii) the material of construction for the drain pipeline and the related connections shall be suitable for cryogenic application.

**(6) Sampling valve.-** In every storage vessel, two valves with suitable distance-pipe of not less than 0.5 meter in length between them shall be fitted at its bottom between the remote operated valve and the first isolation valve for sampling purpose. (The provision of a distance-pipe is for the purpose of avoiding icing problem in the upstream valve)

**(7) Liquid level gauging device.-** In every storage vessel, out of two level indicators provided, one shall be of "float" type and the other shall be of "differential pressure" type in case of Horton Spheres. Magnetic float type gauge shall be used for bullets in the place of "differential pressure" type "High Level" alarm shall be set on the level indicators to operate at not more than 85% (eighty five percent.) of the volumetric capacity of the vessel. An audio-visual indication as regards the high level alarm shall be provided at the normal place of operator's seat.

**(8) Pressure gauge.-** In every storage vessel, there shall be provided atleast one pressure gauge, duly calibrated and having a dial range not less than 1.5 times the design pressure, easily visible and designed to show the correct internal pressure at all times. It shall be provided in the vapour space at the top. A suitable stop valve shall be provided in between the vessel and the pressure gauge.

**(9) Gas sensors.-** In every storage vessel for flammable liquefied or compressed gas, gas sensors with alarm shall be provided at vulnerable areas and in the event of gas leakage, such sensor shall trip the compressor or pump if in operation.

**(10) Bonding.-** Electrical continuity shall be maintained between the flanges by means of bonding in every storage vessel and its pipe lines.

**(11) Pop off valves.**-"Pop off" valves shall be provided in between isolation valves on the pipelines carrying flammable liquefied or compressed gases.

**(12) Capacity of vaporizer.**- The vaporizer, connected to the flammable liquefied gas storage vessels shall have adequate capacity to meet the required flow rate of flammable liquefied gas in the process.

**6. Prevention of ignition.**-In every location where highly flammable liquid or flammable liquefied or compressed gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of highly flammable liquid or liquefied compressed gas in air, all practicable measures shall be taken to exclude the sources of ignition. Such precautions shall include the following: -

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(c) no person shall wear or be allowed to wear any footwear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;

(e) transmission bolts with iron fasteners shall not be used ; and

(f) all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, over heated surfaces of machinery or plant, chemical or physical-chemical reaction and radiant heat.

**7. Enclosed system for conveying highly flammable liquids.**-Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed system consisting of pipe lines, pumps and similar appliances from the storage tank or vessel to the point of use. Such enclosed system shall be so designed, installed, operated and maintained as to avoid leakage or the risk of spilling.

**8. Prohibition of smoking.**-No person shall smoke in any place where a highly flammable liquid or flammable liquefied or compressed gas is present in circumstances that smoking would give rise to a risk of fire. The occupier shall take all practicable measures to ensure compliance with this requirement including display of a bold notices indicating prohibition of smoking at every place where this requirement applies.

**9. Fire protection.**-In every factory,-

(1) no vehicular traffic shall be permitted within the risk area of lower flammable limit of the highly flammable liquid or flammable liquefied or compressed gas stored. When required, vehicles filled with approved spark arrestors shall only be allowed with valid vehicle entry permit.

(2) all the vessels used for bulk storage or handling of highly flammable liquid or flammable liquefied or compressed gases shall be protected against the hazards of fire as follows:

(a) medium velocity water spray system shall be provided for all above ground storage vessels, cylinder storage or filling or repair sheds, pump houses, bulk lorry and tank wagon gantries;

(b) detection of fire for automatic actuation of medium velocity water sprinkler system shall be provided at all critical locations. such as bulk storage, tank truck or tank wagon gantry, pump or compressor house and vapourisers ;

(c) medium velocity water sprinkler system shall be based on heat and other detection.

(d) Quartzoid Bulb protection designed to blow at 79 (seventy nine) degree centigrade (maximum) shall be provided in open areas or in the sheds ;

(e) medium velocity water sprinkler system shall function in such a way that the actuation of fire detectors shall initiate the following: -

(i) opening of deluge valve ;

(ii) audio-visual alarm at the fire pump house or control panel ;

(iii) fire siren ; and

(iv) the diesel pump will get started based on the "Set pressure" to supplement or to maintain the fire water pressure in the ring main; and

(f) The medium velocity water sprinkler system shall have a minimum spray density of ten liters per minute per square meter in the case of flammable liquefied or compressed gas and in the case of highly flammable liquid it shall have minimum

spray density of 3 (three) liters per minute per square meter for the single largest risk area.

For the purpose of calculation of a single risk area, the following shall be taken into account:-

(i) in case of bulk storage, adjoining vessels within the distance of  $R + 30$  (thirty) meter, where  $R$  is the radius of the vessel and 30 (thirty) meter shall be measured from the periphery of the vessel;

(ii) in case of tank lorry gantry, a maximum of 8 (eight) bays shall be taken as a single risk area ; and

(iii) in case of tank wagon gantry, a minimum of one gantry (600 (six hundred) Metric Tonnes) shall be taken as a single risk area.

(3) (a) a fire water ring main shall be provided all around the locations of storage and handling of flammable liquefied or compressed gases with hydrants or monitors spaced at 30 (thirty) meter centre to centre. Fire hydrants and monitors shall be installed outside the licenced premises;

(b) the fire water pressure system shall be designed for a Minimum residual pressure of 7 (seven) Kgf/Sq. Cm. (gauge) at the remotest place of application in the plant;

(c) fire hydrant network shall be provided in closed loops to ensure multi-directional flow in the system. Isolation valves shall be provided to enable isolation of any section of the network without affecting the flow in the rest; and

(d) the fire water system in the plant shall be designed to meet the highest fire-water flow requirement of medium velocity water sprinkler for a single largest risk area at a time plus 288 (two hundred and eighty eight) meter/hour for operating 2 (two) numbers fire water monitor or supplementary hose requirements.

(4) (a) water for the hydrant service shall be stored in any easily accessible surface of underground concrete reservoir or above ground tank of steel or concrete;

(b) the effective fire water storage capacity available for fire-fighting shall be for four hours ; and

(c) storage tank or reservoir for fire water shall be in two interconnected compartments to facilitate cleaning and repair.

(5) Portable fire extinguishers as approved by Bureau of Indian Standards shall be located at convenient places as indicated in the Table below : -

THE TABLE

Area	Portable Fire Extinguisher
(1)	(2)
1. Flammable liquefied gas or storage vessels (each)	2 Numbers 10 Kg. DCP
2. Tank wagon loading or unloading gantries	1 Number 10 Kg. DCP. extinguisher for every 15/20 meters of gantry
3. Tank truck loading or unloading gantries	1 Number 10 Kg. DCP, fire extinguisher in each Bay and 1 Number 50 Kg. Mobile DCP unit/gantry

The dry chemical powder used in the extinguishers shall be potassium or Urea based or Sodium Bicarbonate as per IS: 4308. The expellant gas i.e.,  $N_2/CO_2$  should be of good quality.

**10. Loading and unloading facilities for flammable liquefied or compressed gas.**-(1)**Loading:** In every factory, where the loading of flammable liquefied or compressed gas is carried on, the loading station shall consist of the following:-

(a) a filling line with an isolation valve and check valve ;

(b) a vapour return line with a check valve and an isolation valve to be connected back to the storage vessel from which the loading pump is drawing flammable liquefied gas ;

(c) suitable loading arm or flexible hoses shall be provided at the end of filling line and vapour return line for connecting to the tank truck vessels or tank wagons ; and

(d) suitable thermal pressure relief valve(s) shall be provided between the shut-off valves to protect against excessive pressure which may develop due to thermal expansion of the trapped liquid .

(2) **Unloading.**- In every factory, where unloading of flammable liquefied or compressed gas is carried on, the compressor used for unloading of flammable liquefied gases by means of a differential pressure between the receiving and discharging

vessels by withdrawing vapour from the receiving vessel and forcing it at high pressure into the discharging vessel shall have the following facilities:-

- (a) liquid unloading check valve line with isolation valve; and
- (b) vapour line with isolation valves.

**(3) Loading and unloading operations.-** In every factory, where the loading or unloading of flammable liquefied or compressed gas is carried on

(a) written operating procedures for loading or unloading operation, clearly defining the safety checks and precautions to be observed as well as the responsibilities of the personnel involved in such operation, shall be prepared both in English and in Tamil and shall be given to them and also displayed at the site;

(b) flexible hoses used for transfer of flammable liquefied or compressed gas to or from a tank truck or tank wagon shall be,

- (i) designed and constructed in accordance with the Static and Mobile Pressure Vessels (Unfired) Rules, 1981;
- (ii) having a means of identification ;
- (iii) periodically checked for electrical and mechanical continuity and recorded in the register;

(c) for connecting and disconnecting hoses, only non-sparking type of tools shall be used;

(d) the tank truck shall have the starter motor which shall be of non-sparking or flame-proof type;

(e) the tank truck shall be positioned on a leveled ground and blocks (checks) shall be placed at front and rear wheels in order to prevent the risk of accidental vehicle movement;

(f) the engine of the vehicle shall be stopped and all the electrical equipment shall be switched off, before commencing the loading or unloading operation;

(g) before commencing the loading or unloading operation, static charge shall be effectively discharged by bonding and earthing of the storage vessels and the road tankers or wagons;

(h) the road tanker or wagon shall be electrically bonded at, specified point to the fixed grounding system;

(i) an authorised person shall supervise the transfer operation and respond immediately in the event of an emergency;

(j) during loading operation, the pressure within the receiving tank truck vessel shall be observed to ensure that it does not approach the " start-to-discharge " pressure of the relief valve. Filling rate shall be regulated as required;

(k) the receiving vessel which is having an internal pressure of less than 1(one) Kg/Sq.cm (g) shall not be permitted to be filled, such vessel shall be checked for Oxygen content or explosive mixture and purged, if necessary ;

(l) filling or transfer operation shall be done only during day time ;

(m) filling or transfer operation shall be stopped immediately in the event of—

- (a) uncontrolled leakage occurring;
- (b) a fire occurring in the vicinity;
- (c) lightning and thunder-storm; and

(n) the "Safe Operating Procedure " for unloading shall be displayed conspicuously in English and Tamil near the unloading area.

**11. Maintenance and Inspection.-**In every factory where highly flammable liquid or flammable liquefied or compressed gas is stored in bulk,-

(1) the storage vessels and the safety fittings and instruments shall be tested periodically as per the requirements under various statutes as applicable and relevant records with the particulars of such testing shall be maintained ;

(2) loading or unloading hoses shall be tested atleast once in every six months ;

(3) the earth pits shall be maintained well and the earth resistance shall be measured atleast once in every 12 (twelve) months ; and records shall be maintained in this regard ;

(4) the foundation and supports of the storage vessels shall be checked once in a year for differential settlement due to disturbance in the sub-soil ;

(5) the cathodic protection, if provided, shall be monitored periodically and maintained well for its effectiveness ;

(6) the gas detection system shall be checked and calibrated periodically ; and

(7) the fire water system which includes fire water pumps, fire hydrant or monitor, piping network and water sprinkler or deluge system shall be checked periodically and maintained well for its fail-safe operation.

**12. Training.**-The occupier of every factory in which highly flammable liquid or flammable liquefied or compressed gas is stored in bulk shall ensure that -

(1) the supervisory or managerial personnel are adequately trained in all aspects of safe storage and handling of highly flammable liquid or flammable liquefied or compressed gas as well as disaster control or preparedness and response.

(2) regular raining programmes are conducted in loading or unloading operation, drafting procedure, commissioning and decommissioning procedures," hot work" permit system, fire-fighting or emergency combat operation, health hazards etc., for -

- (a) regular employees;
- (b) contract employees; and
- (c) security staff.

(3) Full-scale emergency mock drill, simulating leakage of flammable gas and the consequent major fire, are conducted in the plant atleast once in every six months in order to assess the level of preparedness and the adequacy of combat measures. Any deviations or defects observed during such mock-drill shall be rectified forthwith

#### SCHEDULE XXXII

#### Operations in Foundaries and Furnaces

(see rule 81)

**1. Application.**-Provisions of this schedule shall apply to all parts of factories where any of the following operations or process are carried on: -

(a) The production of iron casting or, as the case may be, steel castings by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell moulding or by centrifugal casting and any process incidental to such production;

(b) the production of non-ferrous castings by casting metal in moulds made of sand, loam, metal, moulding composition or other material or mixture of materials, or by shell mouldings, die-casting (including pressure die-casting), centrifugal casting or continuous casting and any process incidental to such production ;

(c) the melting and casting of non-ferrous metal and/or ferrous metal for the production of ingots, billets, slabs or other similar products and the stripping thereof ; but shall not apply with respect to -

- (i) any process with respect to the smelting and manufacture of lead and the Electric Accumulators ;
- (ii) any process for the purposes of printing works ; or
- (iii) any smelting process in which metal is obtained by a reducing operation or any process incidental to such operation ; or
- (iv) any process in the course of the manufacture of solder or any process incidental to such manufacture; or
- (v) the melting and casting of lead or any lead-based alloy for the production of ingots, billets, slabs or other similar products or the stripping thereof, or any process incidental to such melting, casting or stripping.

**2. Definition.**-For the purpose of this Schedule,-

(a) "approved respirator" means a respirator of a type approved by the Chief Inspector-cum-Facilitator;

(b) " Cupola or furnace" includes a receiver associated there with;

(c) "dressing or fettling operations "includes stripping and other removal of adherent sand, corers, runners, risers, flash and other surplus metal from a casting and the production of reasonably clean and smooth surface, but does not include

(i) the removal of metal from a casting when performed incidentally in connection with the machining or assembling of castings after they have been dressed or fettled, or

(ii) any operation which is a knockout operation within the meaning of this Schedule ;

(d) "foundry" means those parts of a factory in which the production of iron or steel or non-ferrous castings (not being the production of pig iron) is carried on by casting in moulds made of sand, loam, moulding composition or other mixture of



materials, or by steel moulding or by centrifugal casting in metal moulds lined with sand, or die-casting including pressure die-castings, together with any part of the factory in which any of the following processes are carried on as incidental processes in connection with and in the course of, such production, namely, the preparation and mixing of materials used in foundry process, the preparation of moulds and cores, knock-out operations and dressing or fettling operations ;

(e) "knock-out operations" means all methods of removing castings from moulds and the following operations, when done in connection therewith, namely, stripping, coring out and the removal of runners and risers ;

(f) "pouring aisle" means an aisle leading from a main gangway or directly from a cupola or furnace to where metal is poured into moulds ;

(g) "qualified supervisors" means a person possessing a Bachelor's Degree in Science or Diploma or Degree in Engineering with Certificate in ferrous/non-ferrous technology from any institution recognised by the Chief Inspector-cum-Facilitator.

**3. Prohibition of use of certain materials as parting materials.**-(1) A material shall not be used as a parting material if it is a material containing compounds of silica calculated as silica to the extent more than five per cent, by weight of the dry material:

Provided that this prohibition shall not prevent the following being used as a parting material if the material does not contain an admixture of any other silica:

- (a) Zirconium silicate (zircon).
- (b) Calcined china clay.
- (c) Calcined Aluminous fireclay.
- (d) Sillimanite.
- (e) Calcined or fused Alumina.
- (f) Olivine.
- (g) Natural sand.

(2) Dust or other matter deposited from a fettling or blasting process shall not be used as a parting material or as a constituent in a parting material.

**4. Arrangement and storage.**-For the purposes of promoting safety and cleanliness in workrooms, the following requirements shall be observed:-

(a) moulding boxes, loam plates, ladles, patterns, pattern plates, frames, boards, box weights, and other heavy articles shall be so arranged and placed as to enable work to be carried on without unnecessary risk ;

(b) suitable and conveniently accessible racks, bins or other receptacles shall be provided and used for the storage of other gear and tools;

(c) where there is bulk storage of sand, fuel, metal scrap or other materials or residues, suitable bins, bunkers or other receptacles shall be provided for the purpose of such storage.

**5. Construction, Installation and Operation.**-(1) The precinct in which induction furnace is installed shall be of adequate strength and shall be segregated from the other parts of the factory in such a way so that minimum number of employees is exposed to the risk of any fire or explosion at any time;

(2) Furnace shed shall be well ventilated;

(3) All the fitting and attachment of Induction furnace shall be of good construction, sound material and adequate strength;

(4) Adequate arrangements shall be made to avoid tilting of the ladles while transportation;

(5) Ladle shall not be filled with molten metal more than 3/4th of its volume to avoid spillage of molten metal while being carried by the crane;

(6) The refractory material of the induction furnace shall be strong at high temperature, resistant to thermal shock, chemically inert, low thermal conductivity and co-efficient of expansion and of adequate uniform thickness;

(7) The lining of the induction furnace shall be checked by qualified supervisor every week for any wear and tear and damage as per relevant Bureau of Indian Standards;

(8) Adequate precautions shall be taken during repair of induction furnace as per relevant bureau of Indian Standards.

**6. Construction of floors.**-(1) Floors of indoor workplaces in which the processes are carried on, other than parts which are of sand, shall have an even surface of hard material;

(2) No part of the floor of any such indoor workplace shall be of sand except, where this is necessary by reason of the work done;

(3) All parts of the surface of the floor of any such indoor workplace which are of sand shall, so far as practicable, be maintained in an even and firm condition.

**7. Means of escape.**—There shall be atleast two ways of escape with adequate width at opposite ends of the furnace platforms.

**8. Display of Notice.**—Notice regarding non-use of water, etc. near induction furnace shall be displayed.

**9. Charging of scrap in Induction Furnace.**—(1) No scrap material with close cavities shall be charged in the induction furnace. Scrap to be charged shall be dry and shall not contain oil or any other liquid or moisture;

(2) No scrap material shall be fed into induction furnace unless it is thoroughly checked in the presence of qualified Supervisor;

(3) Sealed or closed container or part made by centrifugal casting shall not be fed into the furnace unless it is cut into pieces, such container shall be rendered safe by suitable means;

(4) No employee shall be engaged in charging of scrap material in induction furnace unless practical measures such as substantial safeguards against splash of hot metal, splatter etc., are provided; and

(5) Scrap received in the form of pressed bundle should be opened, sorted and only then fed into furnace.

**10. Cleanliness of Indoor workplaces.**—(1) All accessible parts of the walls of every indoor workplace in which the processes are carried on and of everything affixed to those wall shall be effectively cleaned by a suitable method to a height of not less than 4.2 meters from the floor at least once in every period of fourteen months. A record of the carrying out of every such effective cleaning in pursuance of this paragraph including the date (which shall be not less than five months nor more than nine months after the last immediately preceding washing, cleaning or other treatment).

(2) Effective cleaning by a suitable method shall be carried out atleast once every working day of all accessible parts of the floor of every indoor workplace in which the processes are carried on, other than pans which are of sand; and the parts which are of sand shall be kept in good order.

**11. Manual operations Involving molten metal.**—(1) There shall be provided and properly maintained for all persons employed on manual operations involving molten metal with which they are liable to be splashed, a working space for that operation.—

(a) which is adequate for the safe performance of the work; and

(b) which, so far as reasonably practicable, is kept free from obstruction.

(2) Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor all parts of which were any person walks while engaged in the operation shall be on the same level :

Provided that, where necessary to enable the operation to be performed without undue risk, nothing in this paragraph shall prevent the occasional or exceptional use of a working space on a different level from the floor, being a space provided with a safe means of access from the floor for any person while engaged in the operation.

**12. Gangways and pouring aisles.**—(1) In every workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this schedule, and, so far as reasonably practicable, in every other workroom to which this paragraph applies, sufficient and clearly defined main gangways shall be provided and properly maintained which—

(a) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage ;

(b) shall be kept, so far as reasonably practicable, free from obstruction ;

(c) if not used for carrying molten metal, shall be atleast 920 millimeters in width ;

(d) if used for carrying molten metal shall be,—

(i) Where truck ladles are used exclusively, atleast 600 millimeters wider than the overall width of the ladle;

(ii) Where hand shanks are carried by not more than two men, atleast 920 millimeters in width ;

(iii) Where hand shanks are carried by more than two men, atleast 1.2 meters in width ; and

(iv) Where used for simultaneous travel in both directions by men carrying hand shanks, atleast 1.8 meters in width.

(2) In workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this Schedule, sufficient and clearly defined pouring aisles shall be provided and properly maintained which -

(a) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;

(b) shall be kept so far as reasonably practicable free from obstruction ;

(c) if molten metal is carried in hand ladles or bull ladles by not more than two men per ladle, shall be atleast 460 millimeters wide, but where any moulds alongside the aisle arc more than 510 millimeters above the floor of the aisle, the aisle shall be not less than 600 millimeters wide;

(d) if molten metal is carried in hand ladles or bull ladles by more than two men per ladle, shall be atleast 760 millimeters wide ;

(e) if molten metal is carried in crane, trolley or truck ladles, shall be of a width adequate for the safe performance of the work.

(3) Requirements of sub-paragraphs (1) and (2) shall not apply to any workroom or part of a workroom if, by reason of the nature of the work done therein, the floor of that workroom or, as the case may be, that part of a workroom has to be of sand.

(4) In this paragraph "workroom to which this paragraph applies" means a part of a ferrous or non-ferrous foundry in which molten metal is transported or used.

**13. Work near cupolas and furnaces.-** No person shall carry out any work within a distance of four meters from a vertical line passing through the delivery and of any spout of a cupola or furnace, being a spout used for delivering molten metal, or within a distance of 2.4 meters from a vertical line passing through the nearest part of any ladle which is in position at the end of such a spout, except in either case, where it is necessary for the proper use or maintenance of a cupola or furnace that work should be carried out within that distance of that work is being carried out at such a time and under such conditions that there is no danger to the person carrying it out from molten metal which is being obtained from the cupola or furnace or is in a ladle in position at the end of the spout.

**14. Dust and fumes.-**(1) Open coal, coke or wood fires shall not be used for heating or drying ladles inside a workroom unless adequate measures are taken to prevent, so far as practicable, fumes or other impurities from entering into or remaining in the atmosphere of the workroom.

(2) No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fires is un-avoidable.

(3) Mould stoves, core stoves and annealing furnaces shall be so designed, constructed, maintained and worked as to prevent, so far as practicable, offensive or injurious fumes from entering into any workroom during any period when a person is employed therein

(4) All knock-out operations shall be carried out -

(a) In a separate part of the foundry suitably partitioned off, being a room or part in which, so far as reasonably practicable, effective and suitable local exhaust ventilation and a high standard of general ventilation are provided ; or

(b) In an area of the foundry in which, so far as reasonably practicable, effective and suitable local exhaust ventilation is provided, or where compliance with this requirement is not reasonably practicable, a high standard of general ventilation is provided.

(5) All dressing or fettling operations shall be carried out -

(a) in a separate room or in a separate part of the foundry suitably partitioned off ; or

(b) in an area of the foundry set apart for the purpose ; and shall, so far as reasonably practicable, be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating as near as possible to the point of origin of the dust.

**15. Maintenance and examination of exhaust plant.-**(1) All ventilating plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.

(2) All ventilation plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be examined and inspected once every week by a responsible person. This shall be thoroughly examined and tested by a competent person atleast once in every period of twelve months; and particulars of the results of every such examination and test shall be entered in a register in **FORM XXV**, which shall be kept readily available for inspection by an Inspector-cum-Facilitator. Any defect found on any such examination and test shall be immediately reported in writing by the person carrying out the examination and test to the Occupier of the Factory.

**16. Protective equipment.-**(1) The occupier shall provide and maintain suitable protective equipment specified for the protection of employees,-

(a) suitable gloves or other protection for the hands for employees engaged in handling any hot material likely to cause damage to the hands by burn, scald or scar, or in handling pig iron, rough castings or other articles likely to cause damage to the hands by cut or abrasion;

(b) approved respirators for employees carrying out any operations creating a heavy dust concentration which cannot be dispelled quickly and effectively by the existing ventilation arrangements.

(2) No respirator provided for the purposes of sub-paragraph (1) (b) has been worn by a person shall be worn by another person if it has not since, been thoroughly cleaned and disinfected.

(3) Persons who for any of their time -

(a) work at a spout of or attend to, a cupola or furnace in such circumstances that material there from may come into contact with the body, being material at such a temperature that its contact with the body would cause a burn ; or

(b) are engaged in, or in assisting with, the pouring of molten metal ; or

(c) carry by hand or move by manual power any ladle or mould containing molten metal ; or

(d) are engaged in knocking-out operations involving material at such a temperature that its contact with the body would cause a burn; shall be provided with suitable footwear and gaiters which worn by them prevent, so far as reasonably practicable, risk of burns to his feet and ankles.

(4) Where appropriate, suitable screens shall be provided for protection against flying materials (including splashes of molten metal and sparks and chips thrown off in the course of any process).

(5) The occupier shall provide and maintain suitable accommodation for the storage and make adequate arrangements for cleaning and maintaining of the protective equipment supplied in pursuance of this paragraph.

(6) Every person shall make full and proper use of the equipment provided for his protection in pursuance of sub-paragraphs (1) and (4) and shall without delay report to the Occupier, or other appropriate person any defect in, or loss of, the same.

(7) Employees working in the furnace/casting pit area shall be provided with cotton clothes. Safety shoes, leg guards, apron, face shield, hand gloves and safety helmet.

(8) Employees employed for segregation of scrap shall be provided with safety shoes and hand gloves

(9) Five retardant and heat retardant clothing shall be provided to all the employees working on platform of induction furnace

**17. Training and Supervision.**-(1) All operations under this Schedule shall be carried out under the supervision of qualified supervisors at all times.

(2) Employees carrying out operations and maintenance activities in foundries and furnaces shall be adequately trained

**18. Washing and bathing facilities.**-(1) There shall be provided and maintained in clean state and good repair for the use of all employees employed in the foundry,-

(a) a wash place under cover with either -

(i) a trough with impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least sixty centimeters for every 10 such persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than sixty centimeters ; or

(ii) atleast one tap or stand pipe for every ten such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 meters apart ; and

(b) not less than one-half of the total number of washing places provided under clause (a) shall be in the form of bathrooms ;

(c) a sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap.

(2) The facilities provided for the purposes of sub-paragraph (1) shall be placed in-charge of a responsible person or persons and maintained in a clean and orderly condition.

**19. Disposal of dross and skimming.**-Dross and skimmings removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.

**20. Disposal of waste.**-Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand) as soon as reasonably practicable after the castings have been knocked-out.

**21. Material and equipment left out of doors.**-All material and equipment left out of doors (including material and equipment so left only temporarily or occasionally) shall be so arranged and placed as to avoid unnecessary risk. There shall be safe means of access to all such material and equipment and, so far reasonably practicable, such access shall be by roadways or

pathways or which shall be properly maintained. Such roadways or pathways shall have a firm and even surface and shall, so far as reasonably practicable be kept free from obstruction.

**22. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall -

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in sub-paragraph (a);

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector-cum-Facilitator, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**23. Medical Examination by Medical Officer.**-(1) Every employee employed in a foundry shall be examined by a Medical Officer within fifteen days of his first employment. Such medical examination shall include pulmonary function tests and chest X- ray. No employee shall be allowed to work after fifteen days of his first employment in the factory, unless certified fit for such employment by the Medical Officer.

(2) Every employee employed in the said processes shall be re- examined by a Medical Officer at least once in every six months. Such examination shall, wherever the Medical Officer considers appropriate, include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in three years.

(3) The Medical Officer after examining an employee, shall issue a certificate of fitness in **FORM XXIII**. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Occupier of the Factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Medical Officer in a Health Register in **FORM XXIV**.

(4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(5) If at any time the Medical Officer is of the opinion that an employee is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the employee, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process, shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Medical Officer, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless the Medical Officer, after further examination, again certifies him fit for employment in those processes.

#### SCHEDULE XXXIII

#### Operations involving Compressed Air Working Environment

(see rule 81)

**1. Application.**-The provisions of this schedule shall apply to all factories or parts of factories wherein employees are employed in compressed air working environment.

**2. Definitions.**-For the purpose of this schedule,-

(a) "Working chamber" means a part of the factory where work in a compressed air environment is carried out, but does not include a medical lock.

(b) "working pressure" means pressure in a working chamber to which an employee is exposed;

(c) "medical lock" means a double compartment lock used for the therapeutic recompression and de-compression of persons suffering from the ill-effects of decompression;

(d) "lock attendant" means the person in-charge of the medical lock and who is immediately responsible for controlling the compression, recompression or decompression of persons in such lock;

(e) "Pressure" means air pressure in bars above the atmospheric pressure.

**3. Ventilation.**- The Occupier shall ensure that the amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least six times the cubic capacity of the work chamber and shall be distributed evenly throughout the work chamber without dead air pockets or undue draughts caused by high inlet velocities.

**4. Air Supply intake point.**—The Occupier shall ensure that the air intake points for all air compressors are located at places where such intake air does not get contaminated with dust, fumes, vapour and exhaust gases or other contaminants.

**5. Emergency generator.**—The Occupier shall ensure that,—

(a) every compressed air system is provided with emergency power supply system for maintaining continued supply of compressed air; and

(b) the emergency power supply system is maintained and is readily available at all times.

**6. Air mains.**—The Occupier shall ensure that every air main supplying air to the working chamber, medical-lock is protected against accidental damage and where it is not practicable to provide such protection, a stand-by air main is provided.

**7. Quality and quantity of air.**—The Occupier shall ensure that.—

(a) without prejudice to requirement of paragraph 3, every working chamber is maintained with the supply of compressed air at the rate of not less than zero point three cubic metres per minute per person working therein;

(b) a reserve supply of compressed air is made available at all times for medical lock; and

(c) the air supplied in a compressed air environment is as far as practicable free from odour and other contaminants, namely, dust, fumes and other toxic substances.

**8. Working temperature.**— The Occupier shall ensure that the temperature in any working chamber does not exceed twenty-nine degree centigrade and keep a record of the temperature measured by dry bulb and wet bulb inside such working chamber once in every hour and to produce such records for inspection on demand to the inspector-cum- facilitator having jurisdiction.

**9. Working in compressed air environment.**— The Occupier shall ensure that.—

(a) de-compression of all employees to atmospheric condition is carried out through qualified and trained lock attendants in accordance with a de-compression procedure approved by the Chief Inspector-cum-Facilitator;

(b) an employee who had undergone three de-compressions from a pressure exceeding one bar in a period of eight hours in a working chamber is not allowed to enter a compressed air environment except for the purpose of carrying out rescue work;

(c) an employee employed in a compressed air environment for a period of eight hours in a day is not employed again in such environment unless he has spent not less than twelve consecutive hours of rest at atmospheric pressure;

(d) no employee is engaged in a compressed air environment at a pressure which exceeds three bars unless prior permission in writing has been obtained from the Chief Inspector-cum-Facilitator for such engagement;

(e) no employee is employed in a compressed air environment without providing suitable personal protective equipments;

(f) no employee is employed in a compressed air environment for more than fourteen consecutive days in a month;

(g) a register of employment of all employees employed in compressed air environment, is maintained;

(h) an identification badge is supplied to an employee employed in compressed air environment;

(i) the badge of an employee referred to in sub-clause (h) contains particulars of his name, location of the medical lock allotted to him for work, the telephone number of the medical practitioner concerned for his treatment and the instructions in case of his illness of unknown and doubtful causes;

(j) record of all identification badges supplied to employees under sub- clause (h), is kept in a register; and

(k) every employee whose name appears in the register referred to in sub- clause (j) wears the badge supplied to him under sub-clause (h) at all times during his duty hours.

**10. Safety instructions.**—The Occupier shall ensure that all employees employed in compressed air environment follow the instructions issued for their safety in the course of such employment.

**11. Medical lock:** The Occupier shall ensure that,—

(a) a suitably constructed medical lock is maintained where employees are employed in a working chamber at a pressure exceeding one bar; and

(b) where more than one hundred employees are employed in a compressed air working environment exceeding one bar , one medical lock is provided for every one hundred employees or part thereof and such medical lock is situated as near as possible to the work chamber.

**12. Medical facilities and records of examinations and tests.-**

(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in sub-paragraph (a);

(2) Every employee employed in a compressed air working environment shall be examined by medical practitioner within fifteen days of his first employment. Such medical examination shall include pulmonary function tests and chest X- ray. No employee shall be allowed to work after fifteen days of his first employment in the factory, unless certified fit for such employment by the Medical practitioner.

(3) Every employee employed in the compressed air working environment shall be re- examined by a Medical practitioner at least once in every 12 months. Such examination shall, wherever the Medical practitioner considers appropriate, include all the tests as specified in sub- paragraph (2) except chest X-ray which will be once in three years.

(4) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in Form XXVI, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**SCHEDULE XXXIV****Welding, Soldering and Brazing**

(see rule 81)

**1. Application.-**The Schedule shall apply to every factory in which or in any part of which any Welding, soldering and brazing process is carried on.

**2. Definitions.-**For the purpose of this Schedule,-

(a) "Welding" means a fabrication process that joins materials, usually metals or thermoplastics, by using high heat to melt the parts together and allowing them to cool, causing fusion.

(b) "Soldering" means a joining process used to join different types of metals together by melting solder.

(c) "Brazing" means a metal-joining process in which two or more metal items are joined together by melting and flowing a filler metal into the joint, the filler metal having a lower melting point than the adjoining metals

**3. Efficient exhaust draught.-**An efficient exhaust draught shall be provided by mechanical means and shall operate on the dust, fumes or smoke given off in the process as near as may be at the point of origin. The exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the dust, fumes or smoke entering into any room or place in which work is carried on.

**4. Testing and examination of ventilating systems.-**(1) All ventilating systems used for the purpose of extracting or suppressing fumes as required by this schedule shall be as per the relevant standard prescribed by the Bureau of Indian Standards, examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of twelve months. Any defects found by such examinations or test shall be rectified forthwith.

(2) A register containing particulars of such examination and tests and the state of the plant and the repairs or alterations, if any, found to be necessary shall be kept and shall be available for inspection by an Inspector-cum-Facilitator.

**5. Medical facilities and records of examinations and tests.-**(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**7. Protective clothing and equipment.-**(1) The Occupier of the factory shall provide and maintain in good and clean condition suitable

(i) flame resistant gauntlet gloves and shirts with sleeves of sufficient length and construction to protect the arms from heat, UV radiation and sparks.

(ii) fire-resistant aprons, coveralls and safety shoes.

(iii) fire-resistant shoulder covers (e.g., capes), head covers (e.g., skull caps), and ear covers for welders performing overhead works.

(iv) welding helmets with UV filter plates and safety spectacles with side shields or goggles.

(v) Face shield and Suitable Respirators where ever necessary

**8. Electrical Hazards.**-(1) The Occupier of the factory shall provide and maintain -

(i) a suitable circuit breaker in the primary circuit;

(ii) a suitable disconnecting switch or controller should be located near the welding equipment;

(iii) insulated cables with proper power rating;

(iv) welding machines with Voltage Reduction Device to prevent any electrical hazard to employees;

(v) proper Earthing of equipment and Continuity to be ensured; and

(vi) working area insulation.

**9. Prevention of ignition.**-(a) Effective steps shall be taken to prevent the accumulation of flammable dust, gas, fume or vapour in the working area.

(b) Any material of flammable nature shall not be kept near the working area.

**10. Effective Screening Arrangements.**- Suitable screening arrangement shall be provided to prevent any weld-spatter thrown off near pathways and other work areas.

**11. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any of the process specified in paragraph 1.

**12. Cautionary placard instructions.**- Cautionary notices in the following form and printed in the language of the majority of the employees employed, shall be affixed in prominent places in the factory where they can be easily and conveniently read by the employees and arrangements shall be made by the occupier to instruct periodically all employees employed in a Welding, Soldering, Brazing process regarding the health hazards connected with their duties and the best preventive measures and methods to protect themselves. The notices shall always be maintained in a legible condition.

#### CAUTIONARY NOTICE

Welding, Soldering, Brazing produces hazardous fumes and Gases

1. Dust fumes and metal fumes of Welding, Soldering, Brazing are toxic when inhaled or when ingested.
2. Do not consume food or drink near the work place.
3. Do not keep inflammable materials near the working area.
4. Use proper protective clothing and equipments provided.

#### SCHEDULE XXXV

#### Manufacturing and Processing of Textiles

(see rule 81)

**1. Application.**-The requirements of this schedule shall apply to factories engaged in the manufacture or processing of textiles other than jute textiles. The schedule would not apply to factories engaged exclusively in the manufacture of synthetic fibers.

**2. Definitions.**-For the purposes of this schedule,-

(a) "Textile manufacturing process" means it involves production or conversion of textile fibre through a defined process into a product. This includes ginning, spinning, weaving, knitting, dyeing and other processes incidental thereto.

(b) "Operation in centrifugal machines " means operations that use centrifugal force for separation, filtration and other related operations therein.

(c) "Calendar" means a set of heavy rollers mounted on vertical side frames and arranged to pass cloth between them. Calendars may have two to ten rollers, or bowls, some of which can be heated.



(d) "Embossing calendar" means a calendar with two or more rolls, one of which is engraved for producing figure effects of various kinds on a fabric.

(e) "card" means a machine consisting of cylinders of various sizes and in certain cases flats covered with card clothing and set in relation to each other so that fibers to staple form maybe separated into individual relationship. The speed of the cylinders and their direction of rotation varies. The finished product is delivered as a sliver. Cards of different types are: the revolving flat card, the roller and clearer card, etc.

(f) "card clothing" means the material with which the surfaces of the cylinder, doffer, flats, etc., of a card are covered and consists of a thick foundation material made of, either textile fabrics through which are pressed many fine closely spaced specially bent wires, or mounted saw toothed wire.

(g) "Comber" means a machine for combing fibers of cotton, wool, etc. The essential parts are device for feeding forward a fringe of fibers at regular intervals and an arrangement of combs or pins, which, at the right time pass through the fringe. All tangled fibers, short fibers, and neps are removed and the long fibers are laid parallel.

(h) "combined machinery" means a general classification of machinery including combers sliver lap machines, ribbon lap machines and gill boxes, but excluding cards.

(i) "Rotary staple cutter" means a machine consisting of one or more rotary blades used for the purpose of cutting textile fibers into staple lengths.

(j) "Garnett machine" means any of a number of types of machines for opening hard twisted waste of wool, cotton, silk, etc. Essentially, such machines consist of a licker-in; one or more cylinders, each having a complement employee and stripper rolls; and a fancy roll and doffer. The action of such machines is somewhat like that of a wool card, but it is much more severe in that the various rolls are covered with garnet wire instead of clothing.

(k) "Gill box" means a machine used in the worsted system of manufacturing yarns. Its function is to arrange fibers in parallel order. Essentially, it consists of a pair of feed rolls and a series of followers where the followers move at a faster surface speed and perform a combing action.

(l) "In-running rolls" means any pair of rolls or drums between which there is a "nip".

(m) "Interlocking arrangement" means a device that prevents the setting in motion of a dangerous part of a machine or the machine itself while the guard cover or door provided to safeguard against danger is open or unlocked, and which will also hold the guard cover or door closed and locked while the machine or the dangerous part is in motion.

(n) "Kier" means a large metal vat, usually a pressure type, in which fabrics may be boiled out, bleached, etc.

(o) "Ribbon lapper" means a machine or a part of a machine used to prepare laps for feeding a cotton comb; its purpose is to provide a uniform lap in which the fibers have been straightened as much as possible.

(p) "Silver Lapper" means a machine or a part of a machine in which a number of parallel card covers are drafted slightly, laid side by side in a compact sheet and wound into a cylindrical package.

(q) "Loom" means a machine for effecting the interlocking of two series of yarns crossing one another at right angles. The warp yarns are wound on a warp beam and pass through bobbins and reeds. The filling is shot across in a shuttle and settled in place by reeds and slay, and the fabric is wound on a cloth beam.

(r) "Starch mangle" means a mangle that is used specifically for starching cotton goods. It commonly consists of two large rolls and a shallow open vat with several immersion rolls. The vat contains the starch solution.

(s) "Water mangle" means a calendar having two or more rolls used for squeezing water from fabrics before drying. Water mangles also may be used in other ways during the finishing of various fabrics.

(t) "Mule" means a type of spinning frame having a head stock and a carriage as its two main sections. The head stock is stationary. The carriage is movable and it carries the spindles which draft, and spin the roving into yarn. The carriage extends over the whole width of the machine and moves slowly towards and away from the head stock during the spinning operation.

(u) "Nip" is the danger zone between two rolls or drums which by virtue of their positioning and movement create a nipping hazard.

(v) "Openers and pickers" means a general classification of machinery which includes breaker pickers, intermediate pickers, finisher pickers, single process pickers, multiple process pickers, willow machines, card and picker waste cleaners, thread extractors, shredding machines, roving waste openers, shoddy pickers, bale breakers, feeders, vertical openers, lattice cleaners, horizontal cleaners and any similar machinery equipped with either cylinders, screen section, calendar section, rolls, or beaters used for the preparation of stock for further processing.

(w) "Paddler" means a trough for a solution and two or more squeeze rolls between which cloth passes after being passed through a mordant or dye bath.

(x) "Plaiting machine" means machine used to lay cloth into folds or regular length for convenience or subsequent process or use.

(y) "Roller printing machine" means a machine consisting of a large central cylinder or pressure bowl, around the lower part of the perimeter of which is placed a series of engraved color rollers (each having a color through), a furnisher roller, doctor blades, etc., The machine is used for printing fabrics.

(z) "Continuous bleaching range" means a machine for bleaching of cloth in rope or open-width form with the following arrangement. The cloth after wetting out pass through a squeeze roll into a saturator containing solution of caustic soda and then to an enclosed J-Box. A V-shaped arrangement is attached to the front part of the J-Box for uniform and rapid saturation of the cloth with steam before it is packed down in the J-Box. The cloth, in a single strand rope form passes over a guide roll down the first arm of the 'V' and up the second. Steam is injected into the 'V' at the upper end of the second arm so that the cloth is rapidly saturated with steam at this point. The J-Box capacity is such that cloth will remain hot for a sufficient time to complete the scouring action. It then passes a series of washers with a squeeze roll in-between. The cloth then passes through a second set of saturator, J-Box, and washer, where it is treated with the peroxide solution. By slight modification of the form of the unit, the same process can be applied to open-width cloth.

(aa) "Mercerizing range" means a 3-bowl mangle, a tentee frame, and a number of boxes for washing and scouring. The whole set up is in a straight line and all parts operate continuously. The combination is used to saturate the cloth with sodium hydroxide, stretch it while saturated, and washing out most of the caustic before releasing tension.

(ab) "Sanforizing machine" means a machine consisting of a large steam-heated cylinder, and endless, thick, woolen felt blanket which is in close contact with the cylinder for most of its perimeter, and an electrically heated shoe which presses the cloth against the blanket while the latter is in a stretched condition as it curves around feed-in roll,

(ac) "Shearing machine" means a machine used for shearing cloth. Cutting action is provided by a number of steel blades spirally mounted on a roller. The roller rotates in close contact with a fixed ledger blade. There may be from one to six such rollers on a machine.

(ad) "Singeing machine" means a machine which comprises of a heated roller, plate, or an open gas flame. The cloth or yarn is rapidly passed over the roller or the plate or through the open gas flame to remove fun or hairiness by burning.

(ae) "Slasher" means a machine used for applying a size mixture to warp yarns. Essentially, it consists of a stand for holding section beams, a size box, one or more cylindrical dryers or an enclosed hot air dryer, and a beaming end for winding they are on the loom beams.

(af) "Tenter frame" means a mashing for drying cloth under tension. It essentially consists of a pair of endless travelling chains fitted with clips of fin pins and carried on tracks. The cloth is firmly held at the selvages by the two chains which diverge as they move forward so that the cloth is brought to the desired width.

(ag) "Wrapper" means a machine for preparing and arranging the yarns intended for the warp of a fabric specifically a beam warped.

**3. General safety requirements.**-(1) Every textile machine shall be provided with individual mechanical or electrical means for starting and stopping such machines. Belt shifter on machines driven by belts and shifting should be provided with a belt shifter lock or an equivalent positive locking device.

(2) Stopping and starting handles or other controls shall be of such design and so positioned as to prevent the operator's hand or fingers from striking against any moving part or any other part of the machine.

(3) All belts, pulleys, gears, chains, sprocket wheels, and other dangerous moving parts of machinery which either form part of the machinery or are used in association with it, shall be securely guarded.

**4. Openers and pickers.**-(1) In all opening or picker machinery, beaters and other dangerous parts shall be securely fenced by suitable guards so as to prevent contact with them. Such guards and doors or covers of openings giving access to any dangerous part of the machinery shall be provided with interlocking arrangement;

Provided that in the case of doors or covers of openings giving access to any dangerous part other than heater covers, instead of the interlocking arrangement, such openings may be so fenced by guards which prevent access to any such dangerous part and which is either kept positively locked in position or fixed in such a manner that it cannot be removed without the use of hand tools.

(2) The feed rolls on all opening and picking machinery shall be covered with a guard designed to prevent the operator from reaching the nip while the machinery is in operation.

(3) The lap forming roller shall be fitted with a guard or cover which shall prevent access to the nip at the intake of the lap roller and fluted roller as long as, the weighted rack is down. The guard or cover shall be so locked that it cannot be raised until the machine is stopped, and the machine cannot be started until the cover or guard is closed:

Provided that the foregoing provision shall not apply to the machines equipped with automatic lap forming devices:

Provided further that any such machine equipped with an automatic lap forming device shall not be used unless the automatic lap forming device is in efficient working order.

**5. Cotton cards.**-(1) All cylinder doors shall be secured by an interlocking arrangement which shall prevent the door being opened until the cylinder has ceased to revolve and shall render it impossible to restart the machine until the door has been closed. Provided that the latter requirement in respect of the automatic locking device shall not apply while stripping or grinding operations are carried out:

Provided further that stripping or grinding operations shall be carried out only by specially trained adult employees wearing tight fitting clothing.

(2) The lick-in shall be guarded so as to prevent access to the dangerous parts.

(3) Every card shall be equipped with an arrangement that would enable the card cylinder to be driven by power during stripping/grinding operations without having to either shift the main belt to the fast pulleys of the machine or to dismantle the interlocking mechanism. Such an arrangement shall be used only for stripping or grinding operations.

**6. Garnett machines.**-(1) Garnett lick-in shall be enclosed.

(2) Garnett fancy rolls shall be enclosed by guards. These shall be installed in a way that keep employee rolls reasonably accessible for removal or adjustment.

(3) The underside of the garnets shall be guarded by a screen mesh or other form of enclosures to prevent access.

**7. Gill boxes.**-(1) The feed end shall be guarded so as to prevent fingers being caught in the pins of the intersecting fallers.

(2) All nips of in-running rolls shall be guarded by suitable nip guards conforming to the following specifications:

Any opening which the guard may permit when fitted in position shall be so restricted with respect to the distance of the opening from any nip point through that opening and in any circumstances, the maximum width of the opening shall not exceed the following:

<i>Distance of opening from nip point</i>	<i>Maximum width from of opening</i>
0 to 38 mm	6 mm
39 to 63 mm	10 mm
64 to 88 mm	13 mm
89 to 140 mm	15 mm
141 to 165 mm	19 mm
166 to 190 mm	22 mm
191 to 219 mm	32 mm

**8. Silver and ribbon tappers (cotton).**-The calendar drums and the lap spool shall be provided with a guard to prevent access to the nip between the in-running rolls.

**9. Speed frames.**-Jack box wheels at the head stock shall be guarded and the guard shall have interlocking arrangement.

**10. Spinning mules.**-Wheels on spinning mule carriages shall be provided with substantial wheel guards, extending to within 6mm of the rails.

**11. Warpings.**-Swiveled double-bar gates shall be installed on all warpers operating in excess of 410 meters/min. These gates shall have interlocking arrangement, except for the purpose of inching or jogging:

Provided that the top and bottom bars of the gate shall be at least 1.05 and 0.53 meters high from the floor or working platform, and the gate shall be located 38mm from the vertical alignment to the beam head.

**12. Slashers.**- (1) **Cylinder Dryers,**

(a) All open nips of in-running rolls shall be guarded by nip guards conforming to the requirements in paragraph 2.

(b) When slashers are operated by control levers, these levers shall be connected to a horizontal bar or treadle located not more than 170 cm. above the floor to control the operation from any point.

(c) Slashers operated by push button control shall have stop and start buttons located at each end of the machine and additional buttons located on both sides of the machine at the size box and the delivery end. If calendar rolls are used, additional

buttons shall be provided at both sides of the machine at points near the nips, except when slashers are equipped with an enclosed dryer as in paragraph (b)

**(2) Enclosed hot air dryer.**-(a) All open nips of the top squeezing rollers shall be guarded by nip guards conforming to the requirements in paragraph 7 (2).

(b) When slashers are operated by control levers, these levers shall be connected to a horizontal bar or treadle located not more than 170 cm. above the floor to control the operation from any point.

(c) Slashers operated by push button control shall have stop and start buttons located at each end of the machine and additional stop and start buttons located on both sides of the machine at intervals spaced not more than 1.83 meters on centers.

**13. Looms.**-(1) Each loom shall be equipped with suitable guards designed to minimize the danger from flying shuttles.

(2) Beam weights for tension in beam shall be of such construction so as to prevent it falling during its adjustment.

**14. Valves of kiers, tanks and other containers.**-(1) Each valve controlling the flow of steam, injurious gases or liquids into a kier or any other tank or container into which a person is likely to enter in connection with a process, operation, maintenance or for any other purpose, shall be provided with a suitable locking arrangement to enable the said person to lock the valve securely in the closed position and retain the key with him before entering the kier, tank or container.

(2) Wherever boiling tanks, caustic tanks and any other containers from which liquids which are hot; corrosive or toxic may overflow or splash, are so located that the operator cannot see the contents from the floor or working area emergency shut off valves which can be controlled from a point not subject to danger or splash shall be provided to prevent danger.

**15. Shearing machines.**-All revolving blade on shearing machine shall be guarded so that the opening between the cloth surface and the bottom of the guard will not exceed 10 mm.

**16. Continuous bleaching range (Cotton and rayon's).**-The nip of all in-running rolls on open-width bleaching machine rolls shall be protected with a guard to prevent the employee from being caught at the nip. The guard shall extend across the entire length of the nip.

**17. Mercerizing range (piece goods).**-(1) A stopping device shall be provided at each end of the machine.

(2) A guard shall be provided at each end of the frame between the in-running chain and the clip opener.

(3) A nip guard shall be provided for the in-running rolls of the mangle and washers and the guard shall conform to the requirements in paragraph 7 (2).

**18. Tenterframe.**-(1) A stopping device shall be provided at each end of the machine.

(2) A guard shall be provided at each end of the machine frame at the in-running chain and the clip opener.

**19. Paddels.**-Suitable nip guard conforming to the requirement in paragraph 7 (2) shall be provided to all dangerous in-running rolls.

**20. Centrifugal extractors.**-(1) Each extractor shall be provided with a guard for the basket and the guard shall have inter-locking arrangement.

(2) Each extractor shall be equipped with a mechanically or electrically operated brake to quickly stop the basket when the power driving the basket is shutoff.

**21. Squeezer or wringer extractor water mangle, starch mangle, backwasher (worsted yarn crabbing machines and decatizing machines).**-All in-running rolls shall be guarded with nip guards conforming to the requirements in paragraph 7 (2).

**22. Sanforizing and palmer machines.**-(1) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements in paragraph 7 (2).

(2) Access from the sides to the nips of in-running rolls should be fenced by suitable side guards.

(3) A safety trip rod cable or wire centre cord shall be provided across the front and back of all palmer cylinders extending the length of the face of the cylinder. It shall operate readily whether pushed or pulled. The safety trip shall not be more than 170 cm above the level at which (sic) the from splashing the operator, the floor or working surface.

**23. Rope washers.**-(1) Splash guards shall be installed on all rope washers unless the machine is so designed as to prevent the water or liquid from splashing the operator, the floor, or working surface.

(2) A safety rip rod, cable or wire centre cord shall be provided across the front and the back of all rope washers extending the length of the face of the washer. It shall operate readily whether pushed or pulled. This safety trip shall be not more than 170 cm. above the level on which the operator stands and shall be readily accessible.

**24. Laundry washer, tumbler or shaker.**-(1) Each drying tumbler, each double cylinder shaker or clothes tumbler, and each washing machine shall be equipped with an inter-locking arrangement which will prevent the power operation of the inside cylinder when the outer door on the case or shell is open, and which will also prevent the outer door on the case or shell from being opened, without shutting off the power and the cylinder coming to a stop. This should not prevent the movement of the inner cylinder by means of a hand operated mechanism or an inching device.

(2) Each closed barrel shall also be equipped with adequate means for holding open the doors or covers of the inner and outer cylinders or shells while it is being loaded or unloaded.

**25. Printing machine (Roller type).**-(1) All in-running rolls shall be guarded by nip guards conforming to the requirement in paragraph 7 (2).

(2) The engraved roller gears and the large crown wheel shall be guarded.

**26. Calendars.**-The nip at the in-running side of the rolls shall be provided with a guard extending across the entire length of the nip and arranged to prevent the fingers of the employees from being pulled in between the rolls or between the guard and the rolls, and so constructed that the cloth can be fed into the rolls safely.

**27. Rotary staple cutters.**-The cutter shall be protected by a guard to prevent hands reaching the cutting zone.

**28. Plating machines.**-Access to the trip between the knife and card bar shall be prevented by a guard.

**29. Hand baling machine.**-An angle iron handle-stop guard shall be installed at right angle to the frame of the machine. The stop guard shall be so designed and so located that it will prevent the handle from travelling beyond the vertical position should the handle slip from the operator's hand when the pawl has been released from the teeth of the take up gear.

**30. Flat work ironer.**-Each flat-work or collar ironer shall be equipped with a safety bar or other guard across the entire front of the seed or first pressure rolls, so arranged that the striking of the bar or guard by the hand of the operator or other person will stop the machine. The guard shall be such that the operator or other person cannot reach into the rolls without removing the guard. This may be either a vertical guard on all sides or a complete cover. If a vertical guard is used, the distance from the floor or working platform to the top of guard shall be not less than 1.83 meters.

**31. General safety requirements in a centrifugal machine.**-1. Centrifugal machine shall be provided with sufficient inter-locking devices that will physically prevent the lids from being opened whilst the rotating drums or baskets are in motion under power or due to power derived earlier and by then switched off and also prevent the starting of the drums or baskets under power while the lids are open.

2. The above requirements shall not apply while charging, ploughing and discharging operations are carried out when the drums or the baskets are rotated at lower speed.

3. Centrifugal machines shall not be operated at a speed in excess of the manufacturer's rating which shall be legibly stamped by the manufacturers both on the inside of the basket and on the outside of the machine casing at easily visible places.

4. All centrifugal machines shall be provided with effective breaking arrangements for bringing the cage, drum or basket to rest within a reasonable short period of time after the power to drive the motor is cut off.

5. The cages, drums or baskets shall be thoroughly examined by a competent person once in every twelve months to check their balance and in case balance at high speed is not observed, effective steps shall be taken to restore their balance before re-commissioning the machines.

**32. Precautions against ignition.**-Wherever there is danger of fire or explosion from accumulation of flammable or explosive dust, fumes or vapours in air:-

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(c) employees shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited ;

(e) transmission belts with iron fasteners shall not be used; and

(f) all other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks overheated surfaces of machinery or plant, chemical or physical chemical reaction and radiant heat.

**33. Spontaneous ignition.**—Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The material susceptible to spontaneous ignition should be stored in dry condition and should be in heaps of such capacity and separated by such passage which will prevent fire. The materials susceptible to ignition and stored in the open shall be at a distance not less than 10 meters away from process or storage buildings.

**34. Fire fighting system.**—(1) In every factory to which this schedule applies fire fighting arrangement shall be made wherein:

(i) the fire hydrant system shall be capable of supplying a minimum of 4,500 liters per minute at a pressure of not less than 7 kilograms per square cm.

(ii) adequate provision of water supply for firefighting shall be made with static storage capacity of not less than 2 hours aggregate pumping.

(2) Every factory employing five hundred or more persons shall provide

(a) Trained and responsible fire fighting squad so as to effectively handle the fire-fighting and life saving equipment in the event of fire or other emergency. Number of persons in this squad will necessarily depend upon the size of risk involved, but in no case shall be less than eight such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pump man and departmental supervisors and operators trained in the operation of fire and emergency services.

(b) Squad leaders shall preferably be trained in a recognised Government institution and their usefulness enhanced by providing residence on the premises.

(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(d) A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.

(e) The pump man shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firefighting equipment in proper working order. Any defect coming to his notice shall be immediately brought to the notice of squad leader.

(f) As far as is practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone interlinked and placed in a convenient location near such areas.

**35. Personnel Protective Equipment.**—The occupier shall provide suitable personnel protective equipments such as respirators, hand gloves, shoes, helmets, goggles, earplug, aprons, etc, as per the relevant standard prescribed by the Bureau of Indian Standards to the employees.

**36. Exhaust draught.**—(1) An efficient exhaust draught shall be provided by mechanical means and shall operate on the dust given off in the process as near as may be at the point of origin. The exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the dust entering into any room or place in which work is carried on.

(2) All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by a competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable. A register containing particulars of such examination and test shall be kept in **FORM XXV**.

**37. Precautions against dangerous fumes, gases, etc.**—(1) No person shall be required or allowed to enter any chamber, tank, vat, pit, pipe, flue or other confined space in any factory in which any gas, fume, vapour or dust is likely to be present to such an extent as to involve risk to persons being overcome thereby, unless it is provided with a manhole of adequate size or other effective means of egress.

(2) No person shall be required or allowed to enter any confined space as is referred to in sub-paragraph (1), until all practicable measures have been taken to remove any gas, fume, vapour or dust, which may be present so as to bring its level within the permissible limits and to prevent any ingress of such gas, fume, vapour or dust and unless—

(a) a certificate in writing has been given by a competent person, based on a test carried out by himself that the space is reasonably free from dangerous gas, fume, vapour or dust; or

(b) such person is wearing suitable breathing apparatus and a belt securely attached to a rope the free end of which is held by a person outside the confined space.

**38. Medical facilities and records of examinations and tests.**—(1)(a) The occupier of every factory to which the schedule applies, shall employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator ; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in any of the processes to which this Schedule applies shall be examined by a Medical practitioner within 15 days of his first employment and re-examined at least once in every 12 calendar months

SCHEDULE XXXVI

**Processing of Rubber and Plastic Compounds**

(see rule 81)

**1. Application.**-The requirements of this schedule shall apply to factory or part thereof wherein manufacture or processing of rubber and plastic compounds is carried on.

**2. Definitions.**-For the purpose of this Schedule,-

(a) "Processing of Rubber and plastic compounds" means breaking down, cracking, washing, grating, mixing, refining, moulding, extruding, handling, vulcanizing and warming rubber or plastic compounds;

(b) "calendar" shall mean machine with rolls used for frictioning, sheeting, coating and spreading of rubber compounds and plastic or plastic compounds;

(c) "Injection moulding machine" shall mean a moulding machine wherein a heat-softened rubber or plastic material is forced from a cylinder into a relatively cool cavity, which gives the article the desired shape.

**3. Installation of machines.**- Rubber and Plastic Mills shall be so installed that top of the front roll is not less than one metre above the floor or working level, provided that in existing installations where the top of the front roll is below this height, a strong rigid distance bar guard shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the roller from the normal working position of the operator.

**4. Safety Devices.**- (1) (a) Rubber and Plastic Mills shall be equipped with hoppers so constructed or guarded that it is impossible for the operators to come into contact in any manner with the nip of the rolls or horizontal safety-trip rods or tight wire cable across both front and rear, which will when pushed or pulled operate instantly to disconnect the power and apply the brakes or to reverse the rolls.

(b) Safety- trip rods or tight wire cable on rubber Mills shall extend across the entire length of the face of the rolls and shall be located not more than 170 centimeters above the floor or working level.

(2) (a) Calendar machines shall be equipped with horizontal safety-trip rods or tight wire across both front and rear, which will when pushed or pulled, operate instantly to disconnect the power and apply the brakes or to reverse the roll;

(b) Safety-trip rods or tight wire cables on calendar machines shall extend across the entire length of the face of the rolls and shall be located not more than 170 centimeters above the floor or working level.

(c) On each side of all calendars and near both ends of the face of the rolls there shall be a vertical tight wire cable connecting with the bar tripping mechanism at the top and fastened to the frame within 30 centimeters of the floor. These cables should be positioned at a distance of not more than 30 centimeters from the face of the roll and at a distance of not less than 25 millimeters from the calendar frame.

**5. Maintenance and Safety Devices.**- Safety-trip rods and tight wire cables on all rubber mills and calendars shall be examined and tested daily in the presence of the occupier or other qualified person and if any defect is disclosed by such examination and test, the mill or calendars shall not be used until such defect has been remedied. Record of such examination and testing shall be maintained.

**6. Injection Moulding Machine and Extruders.**- (1) A Suitable interlock arrangement shall be provided and maintained so that moulds cannot be closed unless the front safety gate is fully closed and on opening the front safety gate, the movement of moulds will stop automatically. No access shall be available to the moulds through the safety gate.

(2) In addition to the above, a hydraulic safety arrangement shall also be incorporated with the front safety gate. This shall prevent the tail stock mould plate from moving forward on opening of the front safety gate.

(3) At the rear of the machine there shall be provided either an efficient fixed guard or a sliding gate which shall be suitably inter-locked with the movement of the mould plates in the manner of the front safety gate as required under (1) above so as to prevent access to the danger zone of the moulds in motion from the rear.

(4) The injection unit and all other accessible parts shall be adequately insulated or guarded and warning signs shall be displayed where hot parts are necessarily exposed.

(5) The electrical safety of the machine shall be ensured through proper insulation of heating elements and provision of ground fault current breaker systems.

**7. Ventilation.**-(1) Adequate ventilation arrangements shall be provided and maintained at all times in the process area referred in paragraph (1) where dangerous or toxic or flammable or explosive dust, fumes and vapours could be present. These

arrangements shall ensure that concentrations, which are either harmful or could result in fire or explosion, are not permitted to be built up in the work environment.

(2) By suitable means, ventilation arrangements shall provide adequate supply of fresh air along with the maintenance of workplace temperature without detrimental to the health of the employees employed therein.

**8. Safety Precautions.-** (1) Written safe system of work shall be developed and followed for safety of all employees working on the machine, mould changing and maintenance work and all such employees shall be adequately trained and instructed in the safe method of work before being employed.

(2) No process or work shall be carried on in such a manner as to cause risk of bodily injury to the persons employed.

**9. Personal protective equipments.-**(1) Employees shall be provided with suitable personal protective equipment to prevent burns from contact with hot surfaces or splatters of hot plastic and gases.

(2) An approved breathing apparatus and protective clothing shall be provided and maintained in good condition for use of every person employed in process area.

**10. Medical facilities and records of examination and tests.-**(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator;

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a);

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in any of the processes to which this Schedule applies shall be examined by a Medical practitioner within 15 days of his first employment. No employee shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Medical practitioner.

(4) Every employee employed in the said processes shall be re-examined by a Medical practitioner at least once in every 12 calendar months.

#### SCHEDULE XXXVII

#### Forging, Forming, Heat Treatment and Incidental Processes

(see rule 81)

**1. Application.-**The schedule shall apply to all types of operations involved in Forging, Forming, Heat Treatment and other incidental processes.

**2. Definition.-**For the purpose of this Schedule,

(a) "approved" means approved by the Chief Inspector-cum-Facilitator;

(b) "Forming" includes all kinds of manufacturing processes involving the application of force by power press, rollers etc.,

(c) "Heat treatment" includes annealing, normalizing, hardening, tempering, marquenching, ausforming, carburizing, nitriding etc.,

(d) "fixed fencing" means fencing provided for the tools of a power press being fencing which has no moving part associated with or dependent upon the mechanism of a power press and includes that part of a closed tool which acts as a guard;

(e) "power press" means a machine used for moulding, pressing, blanking, raising, drawing and similar purposes;

**3. Starting and stopping mechanism.-**(1) The starting and stopping mechanism shall be provided with a safety stop so as to prevent over running of the press.

(2) Suitable arrangements shall be made to arrest the movement of ram during power failure, changing of dies, tool setting and other maintenance work etc.

**4. Safety provisions on power press.-**(1) Each power press shall be provided with suitable fixed fencing on all sides so as to safeguard the employees engaged nearby.

(2) The design, construction and mutual position of the safeguards referred to in sub paragraph (1) shall be such as to preclude the possibility of the employees hand or fingers reaching the danger zone.

(3) The machine shall be fed through suitable means so as to ensure the safety of the employees.



(4) Notwithstanding anything contained in sub-paragraph (1) an automatic or an inter-locked guard with photo-electric sensors, proximity sensors etc, may be used in place of a fixed guard, but where such guards are used they shall be maintained in an efficient working condition and if any guard develops a defect, the power press shall not be operated unless the defect of the guard is removed.

**5. Appointment of persons to prepare power presses for use.**-(1) Except as provided in paragraph 6, no person shall set, re-set, adjust or try out the tools on a power press or install or adjust any safety device thereon, being installation or adjustment preparatory to production of proving, or carry out an inspection and test of any safety device thereon required by paragraph 8 unless he –

(a) has attained the age eighteen;

(b) has been trained in accordance with the sub-paragraph (2) ; and

(c) has been appointed by the Occupier of the Factory to carry out those duties in respect of the class or description of power press or the class or description of safety device to which the power press or the safety device (as the case may be) belongs;

(2) The training shall include suitable and sufficient practical instruction in the matters in relation to each type of power press and safety device in respect of which it is proposed to appoint the person being trained.

**6. Examination and testing of power-presses and safety devices.**-(1) No power press or safety device shall be taken into use in any Factory for the first time in that factory or in case of a safety device for the first time on any power press, unless it has been thoroughly examined and tested, in the case of a power press, after installation in the factory, or in the case of a safety device, when in position on the power press in connection with which it is to be used.

(2) No power press shall be used unless it has been thoroughly examined and tested by a competent person, within the immediately preceding period of twelve months.

(3) No power press shall be used unless every safety device (other than fixed fencing) thereon has within the immediately preceding six months when in position on that power press been thoroughly examined and tested by a competent person.

(4) The competent person carrying out an examination and test under the foregoing provisions shall make a report of the examination and test containing the following particulars and every such report shall be kept readily available for inspection, namely:

(a) name of the occupier of the Factory;

(b) address of the Factory;

(c) identification number or mark sufficient to identify the power press or the safety device;

(d) date on which the power press or the safe device was first taken into use in the Factory;

(e) the date of each periodical thorough examination carried out as per requirements of sub-paragraph (2) above;

(f) particulars of any defects affecting the safe working of the power press or the safety device found at any such thorough examination and steps taken to remedy such defects.

**7. Defects disclosed during a thorough examination and tests.**-(1) Where any defect is disclosed in any power press or in any safety device by any examination and test under paragraph 6 and in the opinion of the competent person carrying out the examination and test, either

(a) the said defect is a cause of danger to employees and in consequence the power press or safety device (as the case may be) ought not to be used until the said defect has been remedied ; or

(b) the said defect may become a cause of danger to employees and in consequence the power press or the safety device (as the case may be)ought not to be used after the expiration of a specified period unless the said defect has been remedied ; such defect shall, as soon as possible after the completion of the examination and test, be notified in writing by the competent person to the occupier of the Factory and, in the case of a defect falling within clause (b) of this paragraph such notification shall include the period within which, in the opinion of the competent person, the defect ought to be remedied.

(2) In every case where notification has been given under this paragraph, a copy of the report made under sub-paragraph (4) of paragraph 6 shall be sent by the competent person to the Inspector-cum-Facilitator for the area within fourteen days of the completion of the examination and test.

(3) Where any such defect is notified to the Occupier in accordance with the foregoing provisions of this paragraph the power press or safety device (as the case may be) having the said defect shall not be used

(a) In the case of a defect falling within clause (a) of sub-paragraph (1) until the said defect has been remedied; and

(b) In the case of defect falling within clause (b) of sub-paragraph (1), after the expiration of the said defect has been remedied.

(4) As soon as is practicable after any defect of which notification has been given under sub-paragraph (1) has been remedied, record shall be made by or on behalf of the occupier stating the measures by which and the date on which the defect was remedied.

**8. Inspection and test of safety devices.**-(1) No power press shall be used after the setting, resetting or adjustment of the tools thereon unless a person appointed or authorised for the purpose under paragraph 5 has inspected and tested every safety device thereon while it is in position on the said power press;

Provided that an inspection, test and certificate as aforesaid shall not be required where any adjustment of the tools has not caused or resulted in any alteration to or disturbance of any safety device on the power press and if, after the adjustment of the tools, the safety devices remain, in the opinion of such a person as aforesaid, in efficient working order.

(2) Every power press and every safety device thereon while it is in position on the said power press shall be inspected and tested by a trained person every day.

**9. Defects disclosed during an inspection and test.**-(1) Where it appears to any person as a result of any inspection and test carried out by him under paragraph 8 that any necessary safety device is not in position or is not properly in position on a power press or that any safety device which is in position on a power press is not in his opinion suitable, he shall notify the occupier forthwith.

(2) Except as provided in sub-paragraph (3) of this paragraph where any defect is disclosed in a safety device by any inspection and test under paragraph 8, the person carrying out the inspection and test shall notify the Occupier forthwith.

(3) Where any defect in a safety device is the subject of a notification in writing under paragraph 7 by virtue of which the use of the safety device may be continued during a specified period without the said defect having been remedied, the requirement in sub-paragraph (2) of this paragraph shall not apply to the said defect until the said period has expired.

**10. Identification of power presses and safety devices.**-For the purpose of identification every power press and every safety device provided for the same shall be distinctively and plainly marked.

**11. Safety precautions in forging and rolling operations.**-(1) Employees shall be provided with suitable personal protective equipment to prevent burns from contact with hot surfaces or splatters of hot material.

(2) Material handling equipments involved in forging and rolling operations shall be of adequate strength, size and suitable shape.

(3) Substantial safeguards shall be provided to ensure the safety of the persons employed in forging and rolling operations from the flying scales, splatter and other materials.

(4) No process or work shall be carried on in such a manner as to cause risk of bodily injury to the persons employed.

**12. Precautions against ignition.**-Wherever there is danger of fire from accumulation of flammable or explosive dust, fumes or vapours or any combustible materials in air:-

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent; and

(c) all other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces etc.,

(d) safe level of quenching medium shall be ensured in the heat treatment furnaces.

(e) alternate power supply arrangements shall be made and interlocked with the normal power supply system so as to ensure constant supply of power during quenching operations.

**13. Training and Instructions to operators.**-The operators shall be trained and instructed in the safe method of work before starting work on any power press.

**14. Ventilation.**-Efficient ventilation shall be provided by mechanical means and shall operate on the dust, fumes or smoke given off in the process as near as may be at the point of origin. The ventilation system shall be so constructed, arranged and maintained as to prevent the dust, fumes or smoke entering into any room or place in which work is carried on.

**15. Testing and examination of ventilating systems.**-(1) All ventilating systems used for the purpose of extracting or suppressing fumes as required by this schedule shall be as per the relevant standard prescribed by the Bureau of Indian

Standards. It shall be thoroughly examined and tested by a competent person once in every period of twelve months. Any defects found by such examinations or test shall be rectified forthwith.

(2) A register containing particulars of such examination and tests and the state of the plant and the repairs or alterations, if any, found to be necessary shall be kept and shall be available for inspection by an Inspector-cum-Facilitator.

**16. Medical facilities and records of examinations and tests.**-(1) The occupier of every factory to which the schedule applies, shall

(a) employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

**17. Prohibition relating to Pregnant Women.**- No pregnant women shall be employed or permitted to work in any area wherein heat treatment process is carried on.

#### SCHEDULE XXXVIII

#### Manufacturing of Paper, Paper Boards and Allied Products

(see rule 81)

**1. Application.**-The requirements of the Schedule shall apply to factories and parts thereof engaged in manufacturing of paper, paper board, allied products and also to the corresponding operations involved in pulp production.

**2. Definitions.**-For the purpose of this schedule,-

(a) "approach safety stop" means a safety device which automatically removes a hazardous function when part of a body comes within dangerous proximity of the danger zone;

(b) "broke" means paper or paper board wasted out during processing;

(c) "broke Guillette" means a machine with a straight knife for cutting up broke or paper reels ;

(d) "Calendar" means a machine for glazing paper or paper board;

(e) "Calendar work platform" means a lifting platform at a Calendar;

(f) "Constant Pressure Switch" means a start and stop switch automatically returning to the stop position when not actuated;

(g) "Crosscutting knife" means a knife mounted on a cylinder roll cross cutting the web;

(h) "drum reel up" means a machine (pope reel) for reeling up the web on an empty spool, friction-driven;

(i) "nip point" means roll nip or any other place where face converge or run so close together that part of the body is in danger of being caught and injured;

(j) "pulper" means a machine for making fiber suspension by mechanical treatment of pulp or paper broke;

(k) "reeling Drum or Spool" means a roll for reeling up the web in full machine width at the drum reel-up;

(l) "threading" means (feeding a narrower pointed web (tail end) through a machine;

(m) "web" means pulp paper or paper-board in the shape of a continuous carpet during manufacturing or processing;

(n) "allied products" means all kinds of materials involving paper.

**3. Safety Measures against Nip Hazards.**-(1) **General:** Nip points shall, when possible be inaccessible from floor level or from any other surface that can easily be stepped on. If this requirement cannot be satisfied the risk must be avoided in some other way, like air jet/chute, carrier ropes, carrier belt or felt. The platforms should have the board of at least 100 millimeters high and two handrails at a height of 400 millimeters and at 900 millimeters. The vertical members of the platform should be spaced at 1 meter for cross platform and 2 meters for longitudinal platform.

(2) **Threading:** Threading shall be done without manual interference when feasible. If threading must be done manually, measures must be taken to achieve adequate safety as in paragraph (1) above.

**4. Reeling Drum Exchange.**-Feeding during spool exchange at the drum reel up shall be effected only by using air jet or air hose, if the speed of the paper machine exceeds 100 meters per minute. If the speed of the machine is less than 100 meters per minute the feeding may be done manually, but measures must be taken to safety during the operation.

**5. Safety measures against risks of being squeezed or knocked down.**—The movement of machine pan or other technical device must not expose anybody to the risk of being squeezed, knocked down or injured. If it cannot be ensured that the danger zone is in accession when a risk is present, the moving device must be equipped with an approach safety stop. Its movement controlled by a hand-operated constant pressure switch or the risk avoided.

**6. Web Reeling.**—(1) Web reeling shall be arranged so that the reel cannot cause injury by moving without control from its intended position by providing a cradle or a protection barrier.

(2) When a reel is carried by a through shaft, a device must if necessary, be arranged to keep the shaft ends in their intended position.

(3) When a reel is carried and substantially governed by resting on two rolls, an ejection shield must be arranged to stop any reel, ejection when the web speed exceeds 15 meters per minute. If the shield is movable, a web speed exceeding 15 meters per minute must not be attainable unless the shield is in its protective position. The shield must not be removable from that position if the web speed exceeds the above value.

**7. Handling of reels.**—(1) A reel must not be automatically put in free motion on a floor level or surface that can easily be stepped on unless this can be done with adequate safety.

(2) A reel discharger shall be arranged and handled so that nobody can be injured by its function or by the discharge reel.

(3) The discharger must not come into operation unless measures are taken to receive the discharger reel safely, if necessary, the discharger shall be controlled by a hand-operated constant pressure switch from a place where the operator can supervise both the zone of movement of the discharger and the course of the discharged reel.

(4) A reel lifted by the ends of a through shaft must not rotate unless the shaft ends and the lifting equipment can stand the stress caused by the rotation.

**8. Cutting of paper.**—(1) A power-driven sharp edged tool for cutting paper shall be shielded against inadvertent contact and as far as possible, inaccessible while in operation.

(2) A cross-cutting knife shall be shielded so that the tool is inaccessible when in operation. It must not be possible to start the tool unless the shield is in its protective position and it must not be possible to open the shield unless the tool is inoperative and its energy supply has been cut off by a safety switch which can be locked in its off-position.

**9. Pulpers, pulp chests. Etc.**—(1) The opening of a pulper, a pulp chest another reservoir of a feeding service shall be arranged so that nobody is in danger of falling or stepping down through the opening.

(2) A pulper and its feeding device shall have a joint emergency stop and if possible a joint energy cut-off device, lockable in the off position.

(3) Broke holes should not be allowed to become covered by paper or broke which may hide them from operating personnel.

**10. Certain devices moving vertically.**—(1) Calendar work plat

s, pallet table, rider rolls, ejection shields, reel lowering devices, lids of driving section covers broke guillotine knives or other stationery devices, which for functional reasons are regularly manoeuvred to considerably different heights, shall be constructed, handled and maintained in such a way that they do not cause any risk of injury by falling down or in any other way and must not be liable to fall down as a result of interruption or variation in the energy supply.

(2) An operating movement that can cause risk of injury shall be controlled by a constant pressure switch from a place where the operator can supervise the zone of movement.

(3) A device as referred to in paragraph (1) above carried by a wire rope or chain shall have the requisite derailment protection and a breaker to stop the movement if the wire rope or chain should slacken or burst.

(4) If operationally stopped in a position where it could cause a risk of injury by falling down, the device shall be automatically secured.

(5) The hoisting equipment of a device as referred to in paragraph (1) above shall be readily available for full inspection.

**11. Calendar Work Platform.**—(1) Calendar work platform shall be longer than the width of the calendar roll and provided with a gate or opening bar. The gate may only be openable inward or the bar may only be openable upwards and it must not be capable of staying open. The bar shall contain at least two rails.

(2) A calendar super work platform shall be controlled by a constant pressure switch, located on the platform.

(3) Along the work side of the platform there shall be an emergency stop controlling the movement of the platform as well as the calendar bowl rotation.

(4) The hoisting and lowering speed must not exceed 0.15 meter per second.

(5) A hydraulic cylinder being part of the hoisting gear of a calendar work platform shall have a valve which, in the event of a hose or pipe fracture or considerable leakage, prevents the platform from moving downwards or retards its descent. Such a valve shall be mounted in or directly on the cylinder.

(6) A calendar super work platform carried by wire rope or chain shall have a reliable catch.

(7) An elevating screw of a calendar work platform shall be self locking bearing nuts and safety nuts shall serve as load-carrying devices.

**12. Examination and Inspection.**-(1) A device as referred to in paragraph 10 (1) above, shall when needed and at least twice a year, and in case of a calendar work platform once a month, is subjected to thorough examination by a qualified person as long as it is being used. If a calendar work platform has been out of use for more than three months, thorough examination shall be carried out before it is used again.

(2) In the course of examination, a check shall be made to ensure that safety devices are in working order and also that the hoisting and lowering speed of the calendar work platform does not exceed the permitted value.

(3) An examination log book shall be maintained and made readily available.

**13. Hose Pipes.**-(1) A hose pipe used for cleaning near a rotating pair of rolls shall have a rounded nozzle or otherwise be arranged so that the nozzle cannot be caught in the nip.

(2) A hose used for flushing liquid at a pressure exceeding 25 Kilogram/ Square centimeter shall have a constant pressure actuated valve for flow control. If needed for safety during handling the nozzle shall be mounted on a stand or the hose designed for two operators.

**14. Space inside a machine.**-Any opening leading to a walkable passage into or through a machine must be blocked. This does not apply if the passage must be accessible for operational or maintenance purpose on condition that entering does not involve any risk.

**15. Inching.**-If it is necessary, to operate a machine temporarily without the protective devices otherwise provided, the speed of the web shall be as low as possible and shall not exceed 15 meters per minute. The machine shall be governed by a hand operated constant pressure switch from a place where the operator can supervise those places where protective devices have been rendered inoperative.

**16. Emergency stop.**-An emergency stop must not break the energy supply to any device needed in an emergency or provoke any movement that might aggravate the situation. Braking provoked by the emergency stop must not be so violent as to cause any risk of injury.

**17. Auxiliary measures.**-In place where large quantities of pulp or broke are frequently handled, measures shall be taken to facilitate the work. Special attention shall be paid to the need for such measures in places where there are high temperatures.

**18. Work Instructions.**-(1) Instructions shall be provided for the work routines necessary to promote safety during normal operation as well as during maintenance, cleaning operation and similar kinds of periodically recurrent tasks.

(2) Work permit system should be adopted for maintenance and cleaning operations.

**19. Other Safety Precautions.**-(1) Wherever risk of injury prevails, necessary caution boards or symbols should be displayed like moving equipments, Nip points, slippery area, men at work, etc.

(2) Adequate training in safe operations should be imparted to employees at the time of induction into the factory and at periodical intervals not exceeding a year and whenever there is a job rotation or operational changes.

(3) For paper machine speeds exceeding 200 meters per minute, start up alarm should be provided before crawl and before being put to run.

(4) All rotating elements should indicate direction of rotation.

(5) Wherever nip is there, indication in bold letter to be provided.

**20. Precautions against ignition.**-Wherever there is danger of fire from accumulation of flammable or explosive dust, fumes or vapours or any combustible materials in air:-

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition;

(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(c) employees shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited ;

(e) transmission belts with iron fasteners shall not be used; and

(f) all other precautions as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks overheated surfaces of machinery or plant, chemical or physical chemical reaction and radiant heat.

**21. Spontaneous ignition.-** Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The material susceptible to spontaneous ignition should be stored in dry condition and should be in heaps of such capacity and separated by such passage which will prevent fire. The materials susceptible to ignition and stored in the open shall be at a distance not less than 10 meters away from process or storage buildings.

**22. Fire fighting system.- (1)** In every factory to which this schedule applies fire fighting arrangement shall be made wherein:

(i) the fire hydrant system shall be capable of supplying a minimum of 4,500 liters per minute at a pressure of not less than 7 kilograms per square cm.

(ii) adequate provision of water supply for firefighting shall be made with static storage capacity of not less than 2 hours aggregate pumping.

(2) Every factory employing five hundred or more persons shall provide

(a) Trained and responsible fire fighting squad so as to effectively handle the fire-fighting and life saving equipment in the event of fire or other emergency. Number of persons in this squad will necessarily depend upon the size of risk involved, but in no case shall be less than eight such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pump man and departmental supervisors and operators trained in the operation of fire and emergency services.

(b) Squad leaders shall preferably be trained in a recognised Government institution and their usefulness enhanced by providing residence on the premises.

(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(d) A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.

(e) The pump man shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firefighting equipment in proper working order. Any defect coming to his notice shall be immediately brought to the notice of squad leader.

(f) As far as is practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone interlinked and placed in a convenient location near such areas.

**23. Personnel Protective Equipment.-**The occupier shall provide suitable personnel protective equipments such as respirators, hand gloves, shoes, helmets, goggles, earplug, aprons, etc, as per the relevant standard prescribed by the Bureau of Indian Standards to the employees.

**24. Ventilation.-**In all workrooms adequate ventilation by the circulation of fresh air shall be provided so as to maintain reasonable conditions of comfort and prevent injury to health of the employees employed therein.

**25. Precautions against dangerous fumes, gases, etc.- (1)** No person shall be required or allowed to enter any chamber, tank, vat, pit, pipe, flue or other confined space in any factory in which any gas, fume, vapour or dust is likely to be present to such an extent as to involve risk to persons being overcome thereby, unless it is provided with a manhole of adequate size or other effective means of egress.

(2) No person shall be required or allowed to enter any confined space as is referred to in sub-paragraph (1), until all practicable measures have been taken to remove any gas, fume, vapour or dust, which may be present so as to bring its level within the permissible limits and to prevent any ingress of such gas, fume, vapour or dust and unless-

(a) a certificate in writing has been given by a competent person, based on a test carried out by himself that the space is reasonably free from dangerous gas, fume, vapour or dust; or

(b) such person is wearing suitable breathing apparatus and a belt securely attached to a rope the free end of which is held by a person outside the confined space.

**26. Medical facilities and records of examinations and tests.**-(1)(a) The occupier of every factory to which the schedule applies, shall employ a qualified medical practitioner for medical surveillance of the employees employed therein whose employment shall be subject to the approval of the Chief Inspector-cum-Facilitator; and

(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in **FORM XXIV**, which shall be kept readily available for inspection by the Inspector-cum-Facilitator.

(3) Every employee employed in handling chemicals involved in the processes shall be examined by a Medical practitioner within 15 days of his first employment and re-examined at least once in every 12 calendar months.

#### SCHEDULE XXXIX

#### Material Safety Data Sheet

(see rule 83(ii))

1.IDENTITY OF MATERIALS				
Product Name		Chemical Designation		
Trade Name		Synonyms		
Formula	Label: Class	Category	CAS Number	UN Number
Regulated Identification	Shipping Name/Codes/Label		HAZCHEM Code	
	Hazardous Identification	Waste Number		
	Hazardous Ingredients		CAS Number	
1.				
2.				
3.				
4.				
2. PHYSICAL AND CHEMICAL PROPERTIES				
Physical State: (Gas,Liquid,Solid)	Boiling point in degree C		Vapour pressure at 35 degree C--mmHg.	
Appearance	Melting/Freezing point in degree C		Evaporation rate at 30 degree C	
Odour	Vapour Density (air-1)		Solubility in Water at 30 degree C	
Others (Corrosivity) etc	Specific Gravity (Water-1)		PH	
3. FIRE AND EXPLOSIVE HAZARDS DATA				
Explosion/ Flammability	Flash Point (deg.) C	LEL %	Auto ignition Temperature degree C	
	Flash Point (deg.) C	UEL %	TDC Flammability (Classification)	
4. REACTIVE HAZARDS				
Stability to	Impact ( Hazardous Combustion products)			
	Static Discharge (Hazardous Decomposition product)			
	Reactivity		(Conditions to avoid)	

Hazardous Polymerization	May/May not occur	(Conditions to avoid)			
Incompatibility (Materials to avoid)					
5. HEALTH HAZARDS DATA					
Routes of Entry:(Inhalation, skin, mucous membranes, eye contact and ingestion)					
Effects of Exposure/Symptoms					
LD 50 (in rat) (mg/kg body weight)	(Orally or percutaneous absorption)			LC50(inrat)(mg/l) 4/hours	
Permissible Exposure Limit (PEL)	ppm. mg/cu. m.	Short Term Exposure Limit (STEL)		ppm. mg/cu. m.	
Threshold Limit Value (TLV)ofACGIH	ppm. mg/cu. m.	Odour Threshold		ppm. mg/cu. m.	
Emergency Treatment:					
6. HAZARD SPECIFICATION					
NFPA Hazard	Signal	Health	Flammability	Stability	Special
Known Hazards:					
Combustible Liquid	Water Reactive Material			Irritant	
Flammable Material	Oxidizer			Sensitizer	
Pyrophoric Material	Organic Peroxide			Carcinogen	
Explosive Material Unstable Material	Corrosive Material Compressed Gas			Mutagen Other (Specify)	
7. SAFE USAGE DATA					
Ventilation	<u>General/Mechanical</u> Local Exhaust				
Protective Equipment Required	<u>Eyes (Specify)</u> <u>Respiratory (Specify)</u> <u>Gloves (Specify)</u> <u>Clothing (Specify)</u> <u>Others (Specify)</u>				
Precautions	Handling & Storage Others (speedy)				
8. EMERGENCY RESPONSE DATA					
Fire	<u>Fire Extinguishing Media</u>				



		<u>Special procedures</u>
		<u>Unusual Hazards</u>
Exposure (inhalation, skin, eye contact and ingestion)		First Aid Measures
Spills	<u>Step to be taken Waste Disposal Method</u>	
9. ADDITIONAL INFORMATION		
10. SOURCES USED : Reference to books, journals, etc.		
11. MANUFACTURERS/SUPPLIER DATA		
Firm's Name	Standard packing	
Mailing Address		
Telephone Number		
Telex Number	Others	
Telegraphic Address		
Contact person in Emergency	Others	
	Emergency Telephone in Transit Areas	

Acronyms- and Glossary of terms:

**CAS:** Chemical Abstract Service Registration Number.

**UN Number:** United Nations Number

**HAZCHEM CODE:** Emergency Action Code (EAC), allocated by the Joint Committee of Fire Brigade Operations, UK.

**TDG Flammability:** Transport of Dangerous Goods --Flammability Classification by United Nations.

**NFPA:** National Fire Protection Association, USA. LD 50 and LC 50 represent the dose in mg/kg of body weight and the concentration in mg/l for 4 hours having lethal effect on 50% of the animals (rats) treated.

**PEL:** Permissible Exposure Limit as laid down in the Statutes.

**TLV:** Threshold Limit Value as laid down by the American Conference of Governmental Industrial Hygienists. (ACGIH), USA.

**STEL:** Short Term Exposure Limit as laid down in the statutes or by the ACGIH.

**GUIDELINES:** All efforts should be made to fill in all the columns. No column should be left blank. In case certain information is not applicable or available. N/APP or N/AV sign may be used.

#### SCHEDULE XL

#### Suggestive List of Equipment for Occupational Health Centre in Factories

(see rule 92(1)(iii)(b))

1. A glazed sink with hot and cold water always available.
2. A table with a smooth top at least 180 cm x 105 cm.
3. Means for sterilizing instruments.
4. A couch.
5. Two buckets or containers with close fitting lids.
6. A kettle and spirit stove or other suitable means of boiling water.
7. One bottle of spirit ammonia aromatics (120 ml.)

8. Two medium size sponges.
9. Two "Kidney" trays.
10. Four cakes of toilet, preferably antiseptic soap.
11. Two glass tumblers and two wine glasses.
12. Two clinical thermometers.
13. Two teaspoons.
14. Two graduated (120 ml.) measuring glasses.
15. One wash bottle (1000 cc) for washing eyes.
16. One bottle (one liter) carbolic lotion in 20.
17. Three chairs
18. One Screen
19. One electric hand-torch.
20. An adequate supply of tetanus toxoid.
21. Coramine liquid (60 ml.)
22. Tablets—anti histaminic antispasmodic (25 each.)
23. Syringes with needles - 2 cc., 5 cc. and 10 cc.
24. Two needle holders, big and small.
25. Suturing needles and materials.
26. One dissecting forceps.
27. One dress in forceps.
28. One scalpel.
29. One stethoscope.
30. Rubber bandage -- pressure bandage.
31. Oxygen cylinder with necessary attachments.
32. One Blood Pressure Apparatus.
33. One Patellar Hammer.
34. One Peak-Flow meter for lung function measurement.
35. One stomach washout.
36. Any other equipment recommended by the Factory Medical Officer according to specific need relating to manufacturing process.
37. In addition
  - (1) For Factories employing fifty one to two hundred
    1. Four plain wooden splints 900mm x 100mm x 6mm:
    2. Four plain wooden splints 350mm x 75mm x 6mm;
    3. Two plain wooden splints 250mm x 50mm x 12mm;
    4. One pair artery forceps;
    5. Injections -- morphia, pethidine, atropine, adrenaline, coramine, Novocain (2 each);
    6. One surgical scissor;
  - (2) For Factories employing above two hundred workers

1. Eight plain wooden splints 900mm x 100mm x 6mm;
2. Eight plain wooden splints 350mm x 75mm x 6mm;
3. Four plain wooden splints 250mm x 50mm x 12mm;
4. Two pairs artery forceps;
5. Injections Morphia, pethadine, atropine, adrenaline, ceramine, novacain (4 each):
6. Two Surgical scissors.

## SCHEDULE XLI

**Permissible Level of Certain Chemical Substances**

(see rule 96)

**1. Definitions.**-For the purpose of this schedule,-

- (a) " mg/m<sup>3</sup> " means milligrams of a substance per cubic meter of air ;
- (b) "mppcm" means million particles of a substance per cubic meter of air ;
- (c) "ppm" means parts of vapour or gas per million parts of air by volume at 250 C and 760 mm of mercury pressure;

(d) "Time weighted average concentration" means the average concentration of a substance in the air at any work location in a factory computed from evaluation of adequate number of air samples taken at that location spread over the entire shift on an day, after giving weight age to the duration for which each such sample is collected and the concentration prevailing at the time of taking the sample.

Time weighted average concentration =  $[(C_1T_1 + C_2T_2 + \dots + C_nT_n)/(1+T_2+\dots+T_n)]$

Where C<sub>1</sub> represents the concentration of the substance for duration T<sub>1</sub> (in hours);

C<sub>2</sub> represents the concentration of the substance for duration T<sub>2</sub> (in hours); and

C<sub>n</sub> represents the concentration of the substance for duration T<sub>n</sub> (in hours);

(e) "Work location" means a location in a factory at which a worker works or may be required to work at any time during any shift on any day.

**2.Limits of concentrations of substance at work locations.**-(1) The time weighted average concentration of any substance listed in Table 1 or 2 of the schedule, at any work location in a factory during any shift on any day shall not exceed the limit of the permissible time weighted average concentration specified in respect of that substance:

Provided that in the case of a substance mentioned in Table 1 in respect of which a limit in terms of short term maximum concentration is indicated, the concentration of such a substance may exceed the permissible limit of the time weighted average concentration for the substance for short periods not exceeding 15 minutes at a time, subject to the condition that

(a) such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than 4 per shift;

(b) the time interval between any two such periods of higher exposure shall not be less than 60 minutes ; and

(c) at no time the concentration of the substance in the air shall exceed the limit of short term maximum concentration.

(2) In the case of any substance given in Table 3, the concentration of the substance at any work location in a factory at any time during any day shall not exceed the limit of exposure for that substance specified in the Table.

(3) In the cases where the word "skin" has been indicated against certain substance mentioned in Tables 1 and 3, appropriate measures shall be taken to prevent absorption through cutaneous routes particularly skin, mucous membranes and eyes as the limits specified in these Tables are for conditions where the exposure is only through respiratory tract.

(4) (a) In case, the air at any work location contains a mixture of such substances mentioned in Tables 1, 2 or 3, which have similar toxic properties, the time weighted concentration of each of these substances during the shift should be such, that when these time weighted concentration divided by the respective permissible time weighted average concentration specified in the abovementioned tables, and the fractions obtained are added together, the total shall not exceed unity, i.e.  $C_1/L_1 + C_3 / L_3 + \dots + C_n / L_n$  should not exceed unity when

When C<sub>1</sub>, C<sub>2</sub>,.....,C<sub>n</sub> are the time weighted concentration of toxic substances 1,2 and in respectively, determined after measurement at work location;

and  $L_1$ ,  $L_2$   $L_n$  are the permissible time weighted average concentration of the toxic substances 1, 2..... and in respectively.

(b) In case the air at any work location contains a mixture of substances mentioned in Table 1, 2 or 3, and these do not have similar toxic properties, then the time weighted concentration of each of these substances shall not exceed the permissible time weighted average concentration specified in the above mentioned tables, for that particular substance.

(c) The requirements in clauses (a) and (b) shall be in addition to the requirements in paragraphs 2 (1) and (2).

**3. Sampling and evaluation procedures.**-(1) Notwithstanding provisions in any other paragraphs, the sampling and evaluation procedures to be adopted for checking compliance with the provisions in the schedule shall be as per standard procedures in vogue from time to time.

(2) Notwithstanding the provisions in paragraph 5, the following conditions regarding the sampling and evaluation procedure to be adopted checking compliance with the provision in this schedule are specified.

(a) For determination of the number of particles per cubic meter in item 1 (a) (i) (1) in Table 2, samples are to be collected by standard or midget imprinter and the counts made by light field technique.

(b) The percentage of quartz in the 3 formulae given in item 1 (A) (i) of Table 2 is to be determined from airborne samples.

(c) For determination of number of fibers as specified in item 2(A) of Table 2, the membrane filter method at 430 x magnification (4 mm objective) with phase contrast illumination should be used.

(d) Both for determination of concentration and percentage of quartz for use of the formula given in item 1 (a) (i) (2) of Table 2, the fraction passing through a size selector with the following characteristics should only be considered.

<i>Aerodynamic diameter (Unity density sphere)</i>	<i>Percentage allowed by size-selector</i>
2.0	20
2.5	75
3.5	50
5.0	25
10.0	0

**4. Power to require assessment of concentration of substances.**-(1) An Inspector-cum-Facilitator may, by an order in writing, direct the occupier of a factory to get before any specified date the assessment of the time weighted average concentration at any work location of any of the substances mentioned in tables 1, 2 or 3 carried out.

(2) The results of such assessment as well as the method followed for air sampling and analysis for such assessment shall be sent to the Inspector-cum-Facilitator within three days from the date of completion of such assessment and also a record of the same kept readily available for inspection by an Inspector-cum-Facilitator

**5. Exemption.**- If in respect of any factory or a part of a factory, the Chief Inspector-cum-Facilitator is satisfied: that, by virtue of the pattern of working time of the workers at different work locations or on account of other circumstances, no worker is exposed, in the air at the work locations, to a substance or substances specified in Tables 1, 2 or 3 to such an extent as is likely to be injurious to his health, he (the Chief Inspector-cum-Facilitator) may by an order in writing, exempt the factory or a part of the factory from the requirements in paragraph 2, subject to such conditions, if any, as he may specify therein.

TABLE 1

Sl.No	Substances	Permissible limits of exposure			
		Time weighted average concentration (TWA) (8 hrs)		Short term maximum concentration (STEL) 15 min).*	
		ppm	Mg/m <sup>3</sup> **	ppm	Mg/m <sup>3</sup> **
(1)	(2)	(3)	(4)	(5)	(6)
1	Acetaldehyde	100	180	150	270
2	Acetic acid	10	25	15	37
3	Acetone	750	1,780	1,000	2,375
4	Acrolein	0.1	0.25	0.3	0.8
5	Acrylonitrile-skin (S.C)	2	4.5	-	-
6	Aldrin-skin	-	0.25	-	-

Sl.No	Substances	Permissible limits of exposure			
		Time weighted average concentration (TWA) (8 hrs)		Short term maximum concentration (STEL) 15 min).*	
7	Allyl Chloride	1	3	2	6
8	Ammonia	25	18	35	27
9	Aniline-skin	2	10	-	-
10	Anisidine(o,p-isomers)-Skin	0.1	0.5	-	-
11	Arsenic & soluble compounds (as As)	-	0.2	-	-
12	Benzene (HC)	0.5	1.5	25	7.5
13	Beryllium & compounds (as Be) (S.C.)	-	0.002	-	-
14	Boron trifluoride-C	1	3	-	-
15	Bromine	0.1	0.7	0.3	2
16	Butane	800	1,900	-	-
17	2-Butanone (Methyl ethyl Ketone-MEK)	200	590	300	885
18	n-Butyl acetate	150	710	200	950
19	n-Butylalcohol-Skin-C	50	150	-	-
20	Sec/Tert Butyl acetate	200	950	-	-
21	Butyl mercaptan	0.5	1.5	-	-
22	Cadmium Dusts and salts (as Cd)	-	0.05	-	-
23	Calcium Oxide	-	2	-	-
24	Carbaryl (Sevin)	-	5	-	-
25	Carbofuran (Furadan)	-	0.1	-	-
26	Carbon disulphide-Skin	10	30	-	-
27	Carbon Monoxide	50	55	400	440
28	Carbon tetrachloride-Skin(S.C)	5	30	-	-
29	Chlordane-Skin	-	0.5	-	2
30	Chlorine	1	3	3	9
31	Chlorobenzene (Mono chlorobenzene)	75	350	-	-
32	Chloroform (S.C)	10	50	-	-
33	Bis (Chlororomethyl) ether (H.C.)	0.001	0.005	-	-
34	Chromic acid and chromates (as Cr)	-	0.05	-	-
35	Chromous salts (as Cr)	-	0.5	-	-
36	Copper Fume	-	0.2	-	-
37	Cotton dust, raw	-	0.2+	-	-
38	Cresol, all isomers-Skin	5	22	-	-
39	Cyanides (as CN)-Skin	-	5	-	-
40	Cyanogen	10	10	-	-
41	DDT (Dichlorodiphenyl trichloroethane)	-	1	-	-
42	Demeton Skin	0.01	0.1	-	-
43	Diazinon Skin	-	0.1	-	-
44	Dibutyl phthalate	-	5	-	-
45	Dichlorvos (DDVP)-Skin	0.1	1	-	-

Sl.No	Substances	Permissible limits of exposure			
		Time weighted average concentration (TWA) (8 hrs)		Short term maximum concentration (STEL) 15 min).*	
46	Dieldrin-Skin	-	0.25	-	-
47	Dinitrobenzene (all isomers)-Skin	0.15	1	-	-
48	Dinitrotoluene-Skin	-	1.5	-	-
49	Diphenyl (Biphenyl)	0.2	1.5	-	-
50	Endosulfan (Thipdan)-Skin	-	0.1	-	-
51	Endrin-Skin	-	0.1	-	-
52	Ethyl acetate	400	1,400	-	-
53	Ethyl alcohol	1,000	1,900	-	-
54	Ethylamine	10	18	-	-
55	Fluorides (as F)	-	2.5	-	-
56	Fluorine	1	2	2	4
57	Formaldehyde (S.C)	1.0	1.5	2	3
58	Formic acid	5	9	-	-
59	Gasoline	300	900	500	1,500
60	Hydrazine-Skin(S.C)	0.1	0.1	-	-
61	Hydrogen Chloride-C	5	7	-	-
62	Hydrogen cyanide Skin C	10	10	-	-
63	Hydrogen Fluoride (as F)-C	3	2.5	-	-
64	Hydrogen peroxide	1	1.5	-	-
65	Hydrogen sulphide	10	14	15	21
66	Iodine C	0.1	1	-	-
67	Iron Oxide Fume (Fe <sub>2</sub> O <sub>3</sub> ) (as Fe)	-	5	-	-
68	Isoamyl acetate	100	525	-	-
69	Isomylalcohol	100	360	125	450
70	Isobutyl alcohol	50	150	-	-
71	Lead, inorg dusts and fumes (asPb)	-	0.15	-	-
72	Lindane-Skin	-	0.5	-	-
73	Malathion -Skin	-	10	-	-
74	Manganese (as Mn) dust and compounds-C	-	5	-	-
75	Manganese fume (as Mn)	-	1	-	3
76	Mercury (as Hg)-Skin				
(i)Alkyl compounds		-	0.01	-	0.03
(ii)All forms except alkyl vapour		-	0.05	-	-
(iii)Aryl and inorganic compounds		-	0.1	-	-
77	Methyl alcohol (Methanol)-Skin	200	260	350	310
78	Methyl cello solve (2-Methoxy ethanol)-Skin	5	16	-	-
79	Methyl isobutyl ketone	50	205	75	300
80	Methyl isocyanate-Skin	0.02	0.05	-	-
81	Nephthalene	10	50	15	75

Sl.No	Substances	Permissible limits of exposure			
		Time weighted average concentration (TWA) (8 hrs)		Short term maximum concentration (STEL) 15 min).*	
82	Nickel carbonyl (as Ni)	0.05	0.35	-	-
83	Nitric acid	2	5	5	10
84	Nitric oxide	25	30	-	-
85	Nitrobenzene-Skin	1	5	-	-
86	Nitrogen dioxide	3	6	5	10
87	Oil mist mineral	-	5	-	10
88	Ozone	0.1	0.2	0.3	0.6
89	Parathion skin	-	0.1	-	-
90	Phenol-skin	5	19	-	-
91	Phorate (Thimet)-Skin	-	0.05	-	0.2
92	Phosgene (Carbonyl chloride)	0.1	0.05	-	0.2
93	Phosphine	0.3	0.4	1	1
94	Phosphoric acid	-	1	-	3
95	Phosphorous (yellow)	-	0.1	-	-
96	Phosphorous Pentachloride	0.1	1	-	-
97	Phosphorous trichloride	0.2	1.5	0.5	3
98	Picric acid – Skin	-	0.1	-	0.3
99	Phridine	5	15	-	-
100	Silane (Silicon tetrahydride)	5	7	-	-
101	Sodium hydroxide-C	-	2	-	-
102	Styrene, monomer (phenylethylene)	50	215	100	425
103	Sulphur dioxide	2	5	5	10
104	Sulphur hexafluoride	1,000	6,000	-	-
105	Sulphuric acid	-	1	-	-
106	Tetraethyl lead (as Pb)-Skin	-	0.1	-	-
107	Toluene (Toluol)	100	375	150	560
108	O-Toluidine-Skin (S.C)	2	9	-	-
109	Tributyl Phosphate	0.2	2.5	-	-
110	Trichloroethylene	50	270	200	1080
111	Uranium, natural (as U)	-	0.2	-	0.6
112	Vinyl chloride (H.C)	5	10	-	-
113	Welding fumes	-	5	-	-
114	Xylene (o-, m-, p-isomers)	100	435	150	655
115	Zinc Oxide				
	(i) Fume	-	5.0	-	10
	(ii) Dust (Total dust)	-	10.00	-	-
116	Zirconium compounds (as Zr)	-	5	-	10

ppm : Parts of vapour or gas per million parts of contaminated air by volume at 25°C and 760 (mm of mercury)

mg/m<sup>3</sup> : milligram of substance per cubic meter of air

\* : Not more than 4 times a day with at least 60 min. interval between successive exposure

\*\* :  $\text{mg/m}^3 = (\text{Molecular weight} \times \text{ppm})/24.45$

Lint : free dust as measured by the vertical elutriator cotton-dust sampler

C : denotes ceiling limit

skin : denotes potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye

S.C : denotes suspected human carcinogens

H.C : denotes confirmed human carcinogens

TABLE 2

Substance	Permissible time weighed average concentration
Silica, Si O <sub>2</sub>	
(a) Crystalline	
(i) Quartz	
(1) In terms of dust count	$(10600)/(\% \text{Quartz} + 10)$ mppcm
(2) In terms of respirable dust	$10/(\% \text{respirable Quartz} + 2)$ mg/m <sup>3</sup>
(3) In terms of total dust	$30/(\% \text{Quartz} + 3)$ mg/m <sup>3</sup>
(ii) Cristobalite	Half the limits given against quartz
(iii) Tridymite	Half the limits given against quartz
(iv) Silica, fused	Same limits as for quartz
(v) Tripoli	Same limit as in formula in item (2) given against quartz. 10 mg/m <sup>3</sup> , total dust
(b) Amorphous	
<b>Silicates</b>	
Asbestos (H.C) (a) Amosite	0.5 fiber/cc***
(b) Chrysotile	1.0 fiber/cc ***
(c) Crocidolite	0.2 fiber/cc ***

\*\*\* (i) For fibre greater than 5µm in length and less than 5µm in breadth with length to breadth ratio equal to or greater than 3:1

(ii) As determined by the membrane filter method at 400-450 x magnification (4mm objective) phase contrast illumination.

Portland cement 10mg/m<sup>3</sup> Total dust containing less than 1% quartz.

Coal dust 2mg/m<sup>3</sup> respirable dust fraction containing less than 5% quartz.

Mppcm = Million particles per cubic metre of air, based on impinge samples by light-field techniques.

\* As determined by the membrane filter method at 400-450 x magnification (4mm objective) phase contrast illumination.

#### Respirable Dust:-

Fraction passing a size selector with the following characteristics:

Aerodynamic Diameter (µm)(unit) (density sphere)	% passing selector
2.0	90
2.5	75
3.5	50
5.0	25
10.0	0



## SCHEDULE-XLII

[see rule 98(4)]

<i>Section of the Code empowering grant of exemption</i>	<i>Class of factory</i>	<i>Nature of exempted work</i>	<i>Extent of exemption</i>	<i>Remarks</i>
(1)	(2)	(3)	(4)	(5)
91(1)(b)	All factories	Urgent repairs	Sections 25, 26 & 31	<p>(i) No worker shall be employed on such repairs for more than 15 hours on any one day, 39 hours during any three consecutive days, or 66 hours during each period of seven consecutive days commencing from his first employment on such repairs.</p> <p>(ii) Within 24 hours of the commencement of the work, notice shall be sent to the Inspector describing the nature of the urgent repairs and the period probably required for their completion.</p> <p>(iii) Exemption from the provisions of section 25 shall apply only in the case of adult male workers.</p>
1(1)(b)	(1) Oil tank installations	Work performed by workers connected with pumping operations	Sections 25, 26 & 31	<p>In the absence of a worker who has failed to report for duty, a shift worker shall be allowed to work the whole or of a subsequent shift provided that—</p> <p>(i) the next shift of the shift worker shall not commence before a period of 16 hours has elapsed;</p> <p>(ii) within 24 hours of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift;</p> <p>(iii) the exemption will be restricted to only male adult workers; and</p> <p>(iv) the limits of work inclusive of overtime shall not exceed those mentioned in section 91.</p>
	(2) Public hydro-electric supply factories	Operation and Maintenance of Prime movers and auxiliaries, transformers and switches.	Sections 25 & 26	-do-
	(3) Public electric supply companies generating electricity from oil in internal combustion engines.	Work of engine drivers and assistants, generator attendants, oilers and greasers, switch board operators and pump men.	-do-	-do-

<i>Section of the Code empowering grant of exemption</i>	<i>Class of factory</i>	<i>Nature of exempted work</i>	<i>Extent of exemption</i>	<i>Remarks</i>
(1)	(2)	(3)	(4)	(5)
	(4)Electrical transforming factories	Work of operation and maintenance of the transforming plant, switches and synchronous condensers.	-do-	-do-
	(5)Distilleries	Work on the extraction of sugar from various bases, fermentation of sugar juice and Distillation of fermented wash.	-do-	-do-
	(6)Sugar factories	Extraction of the juice from the cane, clarification, evaporation and Boiling of the juice; curing of the massecuite and bagging.	-do-	-do-
	(7) Chemical factories	Work on the sulphur burners, chambers, concentrators, and pumps roasting furnaces, manufacture of hydrochloric and nitric acid, sulphates, sulphides, nitrates, superphosphates and chlorides; and work on the steam service.	-do-	-do-
91(1)(b)	(8) Vegetable factories.	Work on refining, hydrogenation bleaching, filtering, generation of hydrogen; hydrogenating; deodorizing processes; compression of oxygen and cylinder filling; and Work on the electrical power plant.	-do-	-do-
91(1)(b)	(9) Ice factories	Work on the engine and compressor drivers and assistants and oilers.	-do-	-do-
91(1)(b)	(10) Oil mills	All work.	section 25	-do-
91(1)(b)	(11) Flourmills	All work.	sections 25 and 26	-do-

<i>Section of the Code empowering grant of exemption</i>	<i>Class of factory</i>	<i>Nature of exempted work</i>	<i>Extent of exemption</i>	<i>Remarks</i>
(1)	(2)	(3)	(4)	(5)
91(1)(b)	(12)Glass factories	(a) Work in attending to furnace. (b) All work and processes from mixing of batch to removal of the manufactured Glass ware from the lears.	sections 25 & 26 section 25	-do- -do-
91(1)(b)	(13)Paper factories	(a) All work on paper making machinery and on the generation and supply of power connected theewith. (b) Work on choppers, digesters, kneaders, strainers and washers ,beaters, paper making machines, pumping plan treelers, cutters and power plant.	sections 25 sections 25 & 26	-do- -do-
	(14)Rubber tyre	All work on curing process.	section 25	-do-
	(15)Iron and steel	All work on steel furnaces.	sections 25 & 26	-do-
	(16)All factories	Work on automatic equipment engaged in galvanizing, an odizingand enamelling.	sections 25, 26 & 29	(1)The limits of work inclusive of overtime shall not exceed those mentioned in section 91. (2)The exemption shall be granted only in respect of adult male workers.
91(1)(b)	Newspaper printing factories	Tele printer service	sections 25 & 26	-do-
91(1)(b)	All factories	Loading and unloading of railway wagons Lorries or trucks	sections25 & 26	-do-

## SCHEDULE- XLIII

(see rule 158)

<i>Sl. No.</i>	<i>Section or rule under which competency is recognised</i>	<i>Qualification required</i>	<i>Experience for the purpose</i>	<i>Facilities at his command</i>
(1)	(2)	(3)	(4)	(5)
1	Rules made under Section 79 - Certificate of Stability for buildings	Degree in Civil or Structural Engineering or Equivalent	<p>(i) A minimum of ten years experience in the design of construction or testing or repairs of structures</p> <p>(ii) Knowledge of non-destructive testing, various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the buildings and</p> <p>(iii) Ability to arrive at a reliable conclusion with regard to the safety of the structure or the building.</p>	
2	Pre-cautions against dangerous fumes as required under various Schedules framed under section 82 and rule 81 -	Master's degree in Chemistry or a degree in Chemical Engineering	<p>(i) A minimum of seven years in collection and analysis of environmental sample and calibration of monitoring equipment;</p> <p>(ii) He shall</p> <p>(a) be conversant with the hazardous properties of Chemicals and their permissible limit values;</p> <p>(b) be conversant with the current techniques of sampling and analysis of the environmental contaminants and</p> <p>(c) be able to arrive at a reliable conclusion as regards the safety in respect of entering and carrying out hot work</p>	Oxygen level meters, meters, instruments and devices as applicable to the Chemical gases or fumes duly calibrated and certified for carrying out the tests and certification of safety in working in confined spaces.
3	Ventilation and dust extraction system, blasting enclosures as required under various Schedules framed under Section 82 and rule 81.	Degree in Mechanical or Electrical Engineering or Equivalent.	<p>(i) A minimum of seven years in the design, fabrication, installation, testing or ventilation system and systems used for extraction and collection of dusts, fumes and vapors and other ancillary equipment;</p> <p>(ii) He shall be conversant with relevant codes of practice and tests procedures that are current in respect of ventilation and extraction system for fumes, and shall be able to arrive at a reliable conclusion with regard to effectiveness of the system</p>	Facilities for testing the ventilation system, instruments and gauges for testing the effectiveness of the extraction systems for dusts, vapors and fumes, and any other equipment needed for determining the efficiency and adequacy of the systems. He shall have the assistance of a suitable qualified technical person who can come to a reasonable conclusion as to the adequacy of the system

Sl. No.	Section or rule under which competency is recognised	Qualification required	Experience for the purpose	Facilities at his command
(1)	(2)	(3)	(4)	(5)
4	Rule 154-Examination and Testing of oven sand driers.	Bachelor's degree in Mechanical Engineering or Electrical Engineering or its equivalent	<p>(i) A minimum experience of seven years in design or maintenance or operation or testing and examination of ovens and driers.</p> <p>(ii) Knowledge of relevant codes of practices and test procedures that are current.</p> <p>(iii) Conversant with statutory requirements regarding the safety of ovens and driers.</p> <p>(iv) Conversant with safety devices and their proper functioning to ensure the safety of oven sand driers</p> <p>(v) Be able to identify defects and other causes leading to failure of ovens and driers</p> <p>(vi) Ability to arrive at a reliable conclusion as to the safety of oven sand driers.</p>	<p>(i) Meters, Instruments and devices duly calibrated and certified for carrying out tests and certification of safety.</p> <p>(ii) Facilities for carrying out non-destructive test</p>
5	Rule 157 (i) sub-rule(17) Testing of heater coil (ii) sub-rule(19) Testing of Thermic fluid.	Bachelor's degree in Mechanical Engineering or Electrical Engineering or its equivalent Master's degree in Chemistry or Bachelors' degree on Chemical Engineering	<p>A minimum experience of seven years in design or operation or maintenance or testing and examination of thermic fluid heater</p> <p>A minimum experience of seven years in testing of thermic fluids</p>	<p>Facilities for pressure testing</p> <p>Laboratory facilities to test acidity, suspended matter, ash contents, viscosity and flash point of thermic fluid.</p>
6	Rule 81, Schedule XVI, Part II, Para 7, Examination of instruments and safety devices	Bachelor's degree in Chemical Engineering or Technology or Instrumentation Engineering or Technology or Mechanical Engineering.	<p>(i) A minimum experience of seven years in</p> <p>(a) Operation of maintenance; (or)</p> <p>(b) testing, examination and inspection of the process instruments and safety devices</p> <p>(i) Must be thoroughly conversant with the relevant codes of practices and test procedures that are current, and be able to arrive at a reliable conclusion</p> <p>as regards their liability and proper function in the process instruments and safety devices</p>	Meters, instruments, devices and other appropriate facilities duly calibrated and certified for carrying out the tests of process instruments and safety devices.

Sl. No.	Section or rule under which competency is recognised	Qualification required	Experience for the purpose	Facilities at his command
(1)	(2)	(3)	(4)	(5)
7	(i) Rule 81, Schedule XVI.PartII,ParaI5, Testing, Examination and repair of plant sand equipments, (ii) Rule 81 Schedule XXIII, Para 13 – Examination of Solvent Extraction Plant	Bachelor's degree in Chemical Engineering or Technology or Instrumentation Engineering or Technology or Mechanical Engineering	(i) A minimum experience of seven years in (a)the operation or maintenance of process plant in a chemical industry:(or) (b)testing examination and inspection or plant equipment and machinery in a chemical process industry (ii) He shall- (c)Be thoroughly conversant with the process of hazard involved; (d)Be able to identify the defects and other causes which may be lead to failure of the plant equipment and machinery in chemical process industry (e) Have ability to arrive at are liable conclusion with regard to the safety and integrity of the plant equipment and machinery	Non-destructive testing equipment such as ultrasonic thickness gauging instrument and flaw detector hydraulic pump portable toxic and flammable gas detectors (Multi gas detector)
8	Rule81, Schedule XVI.PartV,Para5, Testing and examination of plant and equipment made from rein forced plastics.	Bachelor's degree in Plastic Technology or Chemical Engineering or Technology or Mechanical Engineering or Electrical Engineering	(i) A minimum experience of seven years in (a)Operation or maintenance of process plant in a chemical industry (or) (b) Testing examination and inspection of plant and equipment made from rein forced plastics in a chemical industry (ii) He shall (c)Be thoroughly knowledge able about the Indian Standards or any other National Standards as regards the plant and equipment made of reinforced plastics (d) Be fully conversant with the chemical compatibility of rein force plastics; (e) Be able to identify the defect sand other caused which may lead to failure of the plant and equipment made of reinforced plastics (f) Have ability to arrive at are liable conclusion with regard to the safety and integrity of the plant and equipment made of reinforced plastics.	Non-destructive testing equipment such as ultrasonic thickness gauging equipment, flaw detector and hydraulic pump.

Sl. No.	Section or rule under which competency is recognised	Qualification required	Experience for the purpose	Facilities at his command
(1)	(2)	(3)	(4)	(5)
9	(i) Rule 160- Testing and examination of Conveyors (ii) Rule 81, Schedule XXXV, Para 31, Testing and examination of Centrifugal machines (iii) Rule 81, Schedule XXXVII, Para 6, Testing and examination of Power presses	Degree in Electrical or Mechanical or Textile Engineering or Equivalent	(i) A minimum of seven years experience in- (a) design or operation or maintenance; or (b) Testing, examination and inspection of relevant machinery, their guards; safety devices and appliances. (ii) He shall (c) be conversant with safety devices and their proper functioning (d) be able to identify defects and any other cause leading to failure; and (e) have ability to arrive at a reliable conclusion with regard to proper functioning of safety device and appliance and machine guard.	Gauges for measurement; instruments for measurement of speed and any other equipment or device to determine the safety in the use of the dangerous machines.

**FORM I**

(see rule 3)

**APPLICATION FOR REGISTRATION FOR EXISTING ESTABLISHMENTS/NEW ESTABLISHMENT****A. Establishment Details:-**

- Retrieve details of Establishment through LIN:
- Name of Establishment:
- Registration number (DISH/COL) (if available):
- Address of the Establishment:
- Others details of Establishment:
  - PAN number
  - Total Number of employees engaged directly in the establishment:
  - Total Number of the contract employees engaged:
  - Total Number of Inter-State Migrant workers employed:

**6(a) For Factories:**

Sl No	Name, Father's/ Husband's Name, Date of Birth and Aadhar number of the Occupier	Address, Email ID, Telephone number with STD code and Mobile number of Occupier	Full postal address and situation of the factory along with plan approval details	Details of the manufacturing process	Maximum number of workers to be employed on any day	Particulars of power actually installed in H.P
(1)	(2)	(3)	(4)	(5)	(6)	(7)

**(b) For Building and Other Construction Works:**

Sl. No.	Name, Father's/ Husband's Name, Date of Birth and Aadhar number of the Employer	Address, Email ID, Telephone number with STD code and Mobile number of Employer	Full postal address and situation of the construction site	Type of Construction work	Maximum number of workers to be employed on any day	Probable period of commencement of work	Expected period for completion of work	Details of approval of the local authority
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

**(c) For Beedi and Cigar work:**

Sl.No.	Name of the beedi and cigar establishment with full postal address /e-mail ID / contact number	Maximum number of employees to be employed on any one day during the calendar year	Whether the employer is a trade mark owner registered under the Trade and Merchandise Marks Act, 1958 (Central Act 43 of 1958)	Whether the beedies or cigars or both manufactured by the applicant will be sold and marketed by himself or through proprietor or a registered user of a trade mark registered under the Trade and Merchandise Marks Act, 1958 (Central Act, 43 of 1958) or any other person	Whether the plans of the premises are enclosed	Amount of fee paid
(1)	(2)	(3)	(4)	(5)	(6)	(7)

**(d) For Motor Transport establishments:**

Sl.No.	Name of the motor transport undertaking with full postal address /e-mail ID / contact number	Nature of motor transport service (passenger for flight)	Total number of motor transport vehicles (with particulars of registration number)	Maximum number of motor transport workers to be employed on any day during the calendar day	Amount of fee paid
(1)	(2)	(3)	(4)	(5)	(6)

**(e) For Plantations:**

Sl.No.	Name of the plantation with full postal address /e-mail ID / contact number	Nature of the estate (Whether coffee, tea, rubber, cinchona, cardamom, etc.) with hectare of each division.	Maximum number of employees employed and Maximum hectares of land used for plantation on any one day during the calendar year		Name and communication address of the employer / the person other than the employer who manages the plantation	Amount of fee paid
			Maximum number of employees employed	Maximum hectares of land used for plantation		
(1)	(2)	(3)	(4)	(5)	(6)	(7)



**(f) For Sales Promotion Establishments:**

<i>Sl. No.</i>	<i>Name of the sales promotion establishment with full postal address / e-mail ID / contact number</i>	<i>Maximum number of sales promotion employees to be employed on any day</i>	<i>Name and Communication address of the employer/ the person other than the employer who manage as the establishment</i>	<i>Amount of fee paid</i>
(1)	(2)	(3)	(4)	(5)

**(g) For Working Journalist and other Newspaper Establishments:**

<i>Sl.No.</i>	<i>Name of the Working Journalist and other newspaper establishment with full postal address /e-mail ID / contact number</i>	<i>Maximum number of working journalist workers to be employed on any day</i>	<i>Name and Communication address of the employer/ the person other than the employer who manage as the establishment</i>	<i>Amount of fee paid</i>
(1)	(2)	(3)	(4)	(5)

**(h) For Audio Visual Establishments:**

<i>Sl. No.</i>	<i>Name of the Audio Visual establishment with full postal address /e-mail ID / contact number</i>	<i>Maximum number of Audio visual employees to be employed on any day</i>	<i>Name and Communication address of the employer/ the person other than the employer who manage as the establishment</i>	<i>Amount of fee paid</i>
(1)	(2)	(3)	(4)	(5)

7. Ownership Type/Sector:

8. Activity as per National Industrial Classification:

9. Details of Selected NIC Code:

10. Identification of the establishment e-sign/ digital sign of employer/representative:

**B. Details of Employer:-**

1. Name of the Employer / Occupier / Owner/Agent/ Chief Executive/ port authority etc :

2. Designation :

3. Father's/ Husband's Name of the Employer :

4. Date of Birth of the employer:

5. Address of the employer:

6. Email ID, Telephone number with STD code &amp; Mobile No :

7. Aaadhar number of the employer:

**C. Manager/ Agent Details:-**

1. Full name &amp; Address of Manager/ Agent or person responsible for supervision and control of the Establishment

2. Address of Manager/ Agent:

3. Email ID, Telephone number with STD code &amp; Mobile No :

## D. Details of Contractors:-

Sl. No	Name, Father's/ Husband's Name, Date of Birth and Aadhar number of the Contractor	Address, Email ID, Telephone number with STD code and Mobile number of Contractor	Nature of Work	Maximum No. of Contract labour engaged	Date of Commencement / Probable date of Completion of work	No. of Inter-state migrant workmen engaged
(1)	(2)	(3)	(4)	(5)	(6)	(7)

## E. Details of payment of fees:-

1. Fees in rupees:
2. Transaction number:
3. Date of payment:
4. Name of the bank:

## F. Other Details:-

Dated:-

Signature/ E-sign/digital  
sign of employer

Place:-

## FORM II

[see rule 5]

## NOTICE OF COMMENCEMENT / CESSATION OF ESTABLISHMENT:

1. Registration No:
2. Name and Address of Establishment:
3. Name and Designation of employer who has ultimate control over the affairs of the establishment:
4. Full address to which communication relating to the establishment to be sent:
5. Nature of work of the establishment:
6. In case of the notice is for commencement of work the approximate duration of work:
7. In case of cessation, the date of cessation:

I/We hereby intimate that the work of establishment having registration No.

.....dated      is likely to

Commence/cessation is likely to be completed with effect from

.....(Date)/On      (Date)

In case of cessation of work:

I/we hereby certify that the payment of all dues to the workers employed in the establishment has been made and the premises are kept free from storage of hazardous chemicals and substances.

Signature of the Employer

To,

The Inspector-cum-Facilitator

## FORM III

(see rule 6)

The medical examination shall be conducted by a qualified medical practitioner as per following proforma:

**A. Demographics:**

<i>Question</i>	<i>Answer</i>	<i>Remarks</i>
Date:		
Name of the Worker:		
Age:		
Permanent Address:		
Gender:		
Total Number of family Members:		
Total monthly family Income:		
Is the employee under ESI (Employees' State Insurance) Scheme? If yes, provide IP Number.	Yes/No	
Is the employee under any other health scheme apart from ESI-Scheme? (If yes, provide the name of the scheme)	Yes / No	

**B. Occupational History**

<i>Question</i>	<i>Answer</i>	<i>Remarks</i>
Present Designation:		
Work Profile:		
Duration of service in the present work profile:		
Working Hours per shift:		
Night Shift Per Week:		
Night Shift per Month:		

**C. Brief Review of Medical History: Diagnosed previously or currently under treatment or Currently suffering from**

<i>Question</i>	<i>Answer (Yes/No)</i>	<i>Remarks</i>
Anaemia		
Jaundice		
Asthma		
COPD		
History of Any other Lung Disease: (If Yes, Please Specify)		
Vertigo/Dizziness		
Diabetes Mellitus		
Hypertension		
Any Cancer (If Yes, Please Specify the Cancer)		
Chronic Low Back Pain		
Chronic Pain in hand or Elbow		
Hernia		

<i>Question</i>	<i>Answer (Yes/No)</i>	<i>Remarks</i>
Hydrocele		
Varicose Vein		
Haemorrhoids		
History of amputation/fracture/dislocation injury during work (If Yes, please specify)		
Dermatitis (If Yes, specify Site)		
Hearing Impairment		
Visual Impairment		
Any Major Illness requiring hospitalization in last 1 year (If Yes, Name of the Disease)		
Occupational Injury in Last 1 year: if yes Specify the Location of injury and frequency		

**D. Current Symptoms-Diseases Module**

<i>Question</i>	<i>Answer (Yes/No)</i>	<i>Remarks</i>
Smoking habit		
Chewing Tobacco or Pan Masala or Gutkha:		
Alcohol Addiction		
Dermatosis (Irritant Contact Dermatitis/Eczema/Chloracne/ Allergic Contact Dermatitis):		
Mucosal Irritation of eyes/Nose/Throat with response to chemical agent or biological agent:		
Symptoms like Respiratory Difficulty/ Chest Tightness/ Dry Cough at beginning of shift:		
Currently suffering from TB:		
Jaundice or Hepatitis:		
Currently suffering from Low Back Pain		
Currently suffering from Pain in hand or Elbow:		
Currently suffering from Visual Problems		
Currently suffering from Hearing Problems		
Any current injury (amputation/ fracture/ dislocation)		
Any current musculoskeletal sprains/ strains		

**E. Physical Examination**

Date of Examination

<i>Question</i>	<i>Answer (Yes/No) or as appropriate</i>	<i>Remarks</i>
General Skin Condition: (If Any Dermatitis, please mention its location)		
Weight (in Kg):		
Height (in Meter)		

Temperature (°F):		
BP:		
Pulse:		
SpO2:		
Respiratory Rate:		
Examination of Breast of female-employee		

**F. Investigation Report**

- **Routine Blood Investigation: Attach the photocopy of the report**
- **Blood Grouping & Rh Typing and HB Electrophoresis Once in lifetime**

<i>Parameter</i>	<i>Answer (Normal/Increase/Decrease)</i>	<i>Value</i>
Hb%:		
Total WBC Count and Differential Count:		
Platelet Count:		
ESR:		
FBS:		
PPBS:		
HBA1C level		
BUN:		
Creatinine:		
Total Protein		
Albumin		
Globulin		
SGOT		
SGPT		
Bilirubin		
Urine RE		
Urine ME		
Prostate Specific Antigen (PSA)		

**G. Standard Chest X Ray (PA) View: attach the photocopy of the report Date:**

<i>Parameter</i>	<i>Answer (Normal/Abnormal)</i>	<i>Value (if any importance)</i>
Report		

**Report:****H. Spirometry: attach the photocopy of the report (For mine employee) Date:**

<i>Parameter</i>	<i>Answer (Normal/Increase/Decrease)</i>	<i>Value</i>
PEFR:		
FEV <sub>1</sub> :		
Observed:		

Predicted:		
FVC:		
Observed:		
Predicted:		
FEV <sub>1</sub> /FVC:		
Final Report: Normal / Obstructive Lung Disease/ Restrictive Lung Disease/ Mixed Lung Diseases		

**I. Audiometry (Pure Tone / BERA): attach the photocopy of the report Date:**

<i>Parameter</i>	<i>Value/Result/Interpretation</i>
Visual inspection of Eye for any abnormality like wax in external ear, infection etc.,	
Right Ear Hearing Threshold:	
Left Ear Hearing Threshold:	
Final Report preferable based on BERA:	
Right Ear:	
Left Ear:	

**J. Eye Examination: attach the photocopy of the report Date:**

<i>Parameter</i>	<i>Value/Result/Interpretation</i>
Visual inspection of Eye for any abnormality like corneal opacity/scaring, cataract etc.	
Visual Acuity: Right	
Visual Acuity: Left	
Colour Vision	
Field of Vision	
Binocularity	
Lateral Phoria	
Vertical Phoria	
Stereoscopic Vision and Depth Perception Testing	
Fundus (Retina) examination	

**K. 12 lead ECG and Echocardiography:**

Final Report:

**L. MEDICAL FITNESS TESTS FOR PERSONS WORKING AT HEIGHT (as may be applicable):**

1. Detailed Medical History and in-Depth General Medical Examination including tests for Vision, Hearing, Musculoskeletal System, Respiratory System, Cardiovascular System etc.

As applicable to all employees

2. Special Examination

a) Cardiovascular

Uncontrolled hypertension or ischemic heart disease will be a contraindication. In the presence of hypertension and abnormal ECG findings, the employee should be referred to a Cardiologist for fitness.

b) Tests for Labyrinthine functions and for sense of position Eye Examination for Bilateral Nystagmus, Rombergsign. The presence of bilateral nystagmus and a positive Romberg sign will be an absolute contra-indication.

c) Neurological examination Evaluate seizure disorders: CT Scan of Brain and E.E.G if indicated

d) Assessment of Diabetic Control Status:

(in case of employees suffering from Diabetes Mellitus)

e) Assessment of Phobia (Acrophobia) and any other Mental Health Disorder like Anxiety or Depression

f) Evaluation for Vertigo and Dizziness

For use of Industrial Safety Section:

Walking freely over a horizontal bar at 1 ft. height: PASS / FAIL Wearing a safety belt and tying the rope knot: PASS/ FAIL

Walking over a horizontal structure at 9 ft. height wearing a belt: PASS/ FAIL General physique (O.K./NOT O.K): PASS/ FAIL

M. Any other information/examination/biological investigation/test as mutually agreed by the employer and qualified medical practitioner.

## FORM IV

(see rule 8(1)(2) and (3))

## NOTICE OF ACCIDENT OR DANGEROUS OCCURRENCE

## E.S.I.C. Employer's Code number:

1. Name of employer :
2. Address of works / premises where the accident or dangerous occurrence took place :
3. Nature of industry:
4. LIN of the establishment:
5. Registration number (DISH/COL):
6. Branch or department and  
exact place where the accident or  
dangerous occurrence took place :
7. Details of the person injured or killed:

Sl. No.	Name, Sex, Age, Father's/Husband's name, Aaadhar number of the person injured or killed	Address of the person injured or killed	Occupation of the person injured or killed	Monthly wages of the person injured or killed	E.S.I.C. Insurance Number of the person injured or killed
(1)	(2)	(3)	(4)	(5)	(6)

8. Local E.S.I.C. Office to which the  
Person injured or killed is attached :
9. Date, shift and hour of accident  
or dangerous occurrence :
10. (a) Hour at which the person injured or killed started work on the day of  
accident or dangerous occurrence :  
(b) whether wages in full or part are payable to him for the day of the  
accident or dangerous occurrence :
11. (a) Cause or nature of accident  
or dangerous occurrence :  
(b) If caused by machinery-  
(i) Give the name of machine and the part causing the accident  
or dangerous occurrence :  
(ii) state whether it was moved  
by mechanical power at the time of accident or dangerous occurrence :  
(c) State exactly what the person injured or killed was doing at the time of accident  
Or dangerous occurrence :  
(d) In your opinion, was the person injured or killed at the time of accident or dangerous occurrence-  
(i) acting in contravention of provisions of any law applicable to him or



(ii) acting in contravention of any orders given by or on behalf of his employer or

(iii) acting without instructions from his employer?

(e) In case reply to (d) (i), (ii) or (iii) is in the affirmative, state whether the act was done for the purpose of and in connection with the employer's trade or business. :

12. In case the accident or dangerous occurrence took place while travelling in the employer's transport, state whether -

(a) the person injured or killed was travelling as a passenger to or from his place of work;;

(b) the person injured or killed was travelling with the express or implied permission of his employer;;

(c) the transport is being operated by or on behalf of the employer or some other person by whom it is provided in pursuance of arrangements made with the employer and :

(d) the vehicle is being/not being operated in the ordinary course of public transport service:

13. In case the accident or dangerous occurrence took place while meeting emergency, state-

(a) its nature ;and

(b) whether the person injured or killed at the time of accident or dangerous occurrence was employed for the purpose of his employer's trade or business in or about the premises at which the accident or dangerous occurrence took place. :

14. Describe briefly how the accident or dangerous occurrence took place :

15. Names and addresses of witnesses :(1)

(2)

16. (a) Nature and extent of injury (e.g. fatal, loss of finger, fracture of leg, scald, scratch followed by sepsis, etc.) :

(b) Location of injury (e.g. right leg, left hand, left eye, etc.)

17. (a) If the accident or dangerous occurrence was not fatal, state whether the injured person was disabled for more than 48 hours :

(b) date and hour of return of work :

18. (a) Physician, dispensary or hospital from whom or which the injured person received or is receiving treatment :

(b) Name of dispensary/panel doctor elected by the injured person :

19. (a) Has the injured person died? :

(b) If so, date, time and place of death :

I certify that to the best of my knowledge and belief the above particulars are correct in every respect.

Date of dispatch of report:

Place:

Signature/ E-sign/digital sign of employer

Signature and Name and Designation of owner/ employer /manager/agent

## FORM V

[see rule 8(5)]

## REPORT OF FURTHER DETAILS OF ACCIDENT

E.S.I.C. Employer's Codenumber:

1. Name of employer :
2. Address of works / premises where the accident tookplace :
3. Nature of industry :
4. LIN of the establishment:
5. Registration number (DISH/COL):
6. Running serial number of the accident in the factory and  
calendar year in respect of which this further report is now sent:
7. Local E.S.I.C. Office to which the  
Person injured or died is attached:
8. Date, shift and hour of accident :
9. Details of the person injured:

Sl. No.	Name, Aadhar number of the person injured	E.S.I.C. Insurance Number of the person injured	Date of return to work	Number of days the person injured was away from work	Details of the disablement, if any	Particulars of medical/fitness certificate (medical practitioner, date and place of issue)
1	2	3	4	5	6	7

10. Percentage loss of earning capacity, if any: (Give reference to the medical certificate and enclose copy of the same)

11. Details of payment of disablement benefit where such payment is made by the employer himself: (If the person injured is covered by Employees State Insurance Scheme, state so.)

12. If the person is still undergoing treatment, state the present position, where he is undergoing treatment, when he is likely to be fit to resume work, etc. Even if the person injured is under treatment under the ESI Scheme the relevant information shall be obtained and furnished to the Inspector-cum-Facilitator by the Employer:

13. Any other relevant information

I certify that to the best of my knowledge and belief the above particulars are correct in every respect.

Date of the report.

Signature/ E-sign/digital sign of employer

## FORM VI

(see rule 32)

## NOTICE OF PERIODS OF WORK

Name of the Establishment..... Address.....

Registration number (DISH/ COL)

Periods of work Groups, Relays	Men												Women												Description of Groups, Nature of work	Remarks
	Total no. of men employed												Total no. of women employed													
	A			B			C			D			E			F			G			H				
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		

On working days

	Working hours	Overtime hours
From		
To		
From		
To		
From		
To		

On partial working days

	Working hours	Overtime hours
From		
To		
From		
To		
From		
To		

Date on which this notice is first exhibited:

Signature of employer :

Date :

## FORM VII

[see rule 33(1)]

**REGISTER OF WORKERS EMPLOYED IN AN ESTABLISHMENT, WAGES, OVERTIME, FINE,  
DEDUCTION FOR DAMAGE OR LOSS**

Name of the Establishment:

Name of the Employer:

Labour Identification Number (LIN):

PAN/TAN of the Employer:

Registration number (DISH/COL):

SINo. in Employee Register	Name of the employee	Designation / Department	Duration of Payment of Wages (Monthly/ Fortnightly /Weekly/Daily/ Piece rated)	Wage Period From- To	Total no. of days worked during the period	Total overtime (hours worked or production in case of piece workers)	Rates of wages		
							Basic	DA	Allowances
1	2	3	4	5	6	7	8	9	10

Overtime earning	Nature of acts and omissions for which fine imposed with date	Amount of fine imposed	Damage or loss caused to the employer by neglect or default of the employee	Amount of deduction from wages	Total amount of wages paid	Date of Payment
11	12	13	14	15	16	17

SIno. in Employee Register	Name of the person	Designation	In/Out timings	Dates																Total no. of days worked during the period	Total overtime (hours)	Remarks
				1	2	3	4	5	6	7	8	9	..	30	31							
A	b	C	d	1	2	3	4	5	6	7	8	9	..	30	31	F	g	H				
			IN																			
			OUT																			

## FORM IX

(see rule 35)

## ANNUAL RETURN

**UNIFIED ANNUAL RETURN FORM****FOR THE YEAR ENDING.....**

**Single Integrated Return to be filed On-line under the Occupational Safety, Health and Working Conditions Code, 2020, the Code on Industrial Relations, 2020, the Code on Social Security , 2020, and the Code on Wages,2019**

**Instructions to fill up the Annual Return**

- (1) This return is to be filled-up and furnished on or before 31st January every year.
- (2) The term Establishment shall have the same meaning as under the Occupational Safety, Health and Working Conditions Code,2020.
- (3) This return is to be filled-up in case of Contractor or manpower supplier who has engaged more than 50 workers.

**A. General Information:**

Sl. No.			Instructions for filling the column
1.	Labour Identification Number		EPFO, ESIC, MCA, MoLE (LIN)
2.	Registration number (DISH/COL)		
(i)	Occupational Safety and working conditions code, 2020		
(ii)	Code on Social Security code, 2020		
3.	Name of the Establishment		
4.	Email ID		
5.	Telephone No.		
6.	Mobile number		
7.	Premise name		
8.	Sub-locality		
9.	District		
10.	State		
11.	Pin code		
12.	Geo Co-ordinates		

13.	Details of employer		
(i)	Name		
(ii)	Email id		
(iii)	Telephone number		
(iv)	Mobile number		
14.	Details of manager (if applicable)		
(i)	Name		
(ii)	Email id		
(iii)	Telephone number		
(iv)	Mobile number		
15.	Date of opening of the establishment		
16.	Date of closure of the establishment (if closed)		
<b>B(i).</b>	<b>Number of Shifts</b>		
<b>B (ii).</b>	<b>Number of days establishment worked in the calendar year</b>		

**C. Details of Manpower Deployed**

Details	Directly employed				Employed through Contractor				Grand Total
Skill Category	Highly Skilled	Skilled	Semi-Skilled	Un-Skilled	Highly Skilled	Skilled	Semi-Skilled	Un-Skilled	
(i) Maximum No. of employees employed in the establishment in any day during the year	Male	Female	Transgender	Total	Male	Female	Transgender	Total	
(ii) Average No. of employees employed in the establishment during the year	Male	Female	Transgender	Total	Male	Female	Transgender	Total	
(iii) Migrant Worker out of (ii) above	Male	Female	Transgender	Total	Male	Female	Transgender	Total	
(iv) Number of fixed term employee engaged	Male	Female	Transgender	Total	Male	Female	Transgender	Total	

**D. Details of contractors engaged in the Establishment:**

Sl no	Name, address and LIN/Licence number (DISH/COL) of the contractor	Period of contract	Nature of work	Number of days worked	Number of man days worked	Maximum number of workers employed
(1)	(2)	(3)	(4)	(5)	(6)	(7)

**E. Details of various Health and Welfare Amenities provided.**

Sl. No.	Nature of various welfare amenities provided	Statutory (specify the statute )	Instructions for filling
1.	Whether facility of Canteen provided (as per section 24(v) of OSH Code, 2020)	Yes / No	Applicable to all establishments wherein one hundred or more workers including contract labour are ordinarily employed
2.	Crèches (as per section 67 of Code on Social Security Code, 2020 and Section 24 and Sec. 92(1) (b) of the OSH Code2020)	Yes / No	Applicable to all establishments wherein fifty or more workers are employed
3.	Ambulance Room (as per section 24(2)(i) of OSH Code, 2020)	Yes / No	Applicable to Factories, Building and Other Construction Works wherein more than five hundred workers are ordinarily employed
4.	Safety Committee (as per Section 22(1) of OSH Code, 2020.	Yes / No	Applicable to factories and Building and other construction works employing two hundred and fifty workers or more. Applicable to factories carrying on hazardous process employing fifty workers or more.
5.	Safety Officer (as per section 22(2) of OSH Code, 2020)	No. of safety officers appointed	Applicable to factories employing 500 workers or more, factory carrying on hazardous process and BOCW employing 250 workers or more.
6.	Qualified Medical Practitioner (as per Section 12 (2) of OSH Code 2020.	No. of Qualified Medical Practitioner appointed.	There is no specification for minimum number of Qualified Medical Practitioner employed in establishment. However, this detail is required to have data on occupational health.
7	Appointment of Welfare Officer as per Sec.24 (2) (iv) of OSH Code, 2020	Yes/No	Applicable to Factories and Plantations
8	Details of Housing facilities provided as per Sec.92 (1) (a)	(i) Number of houses to be constructed (ii) So far constructed (iii) No. of std houses	Applicable to Plantations



9	Details of Educational facilities provided as per Sec.92 (1) (c)	(i) Own school (ii) Other school	Applicable to Plantations		
10	Details of Medical facilities provided as per Sec.92 (1) (d)	Specify	Applicable to Plantations		
<b>F. The Industrial Relations:</b>					<b>Instructions for filling</b>
1.	Is the Works Committee has been functioning. (section 3 of IR Code, 2020)	Yes/No	Industrial establishment in which 100 or more workers are employed		
(a)	Date of its constitution.				
2.	Whether the Grievance Redressal Committee constituted (section 4 of IR Code, 2020)	Yes/No	Industrial establishment employing 20 or more workers are employed		
3.	Number of Unions in the establishments.	(i) Authorised (Specify the name of the union) (ii) Others			
4.	Whether any negotiation union exist (Section 14 of IR Code, 2020)	Yes/No			
5.	Whether any negotiating council is constituted (Section 14 of IR Code, 2020)	Yes/No			
6.	Number of workers discharged, dismissed, retrenched or whose services were terminated during the year:				
<b>Discharged</b>		<b>Dismissed</b>	<b>Retrenched</b>	<b>Terminated or Removed</b>	<b>Grand Total</b>
7.	<b>Man-days lost during the year on account of</b>				
Sl. No.	Reasons	Period / Date	No. of man-days lost	Loss in term of money	
(1)	(2)	(3)	(4)	(5)	
(a)	Strike				
(b)	Lockout				
(c)	Others (Specify)				

<b>8. Details of retrenchment / lay off</b>					
Sl. No.	No. of persons retrenched during the Period	Details of payment paid to retrenched employees	No. of workers laid off during the period	No. of man-days lost due to lay-off	
(1)	(2)	(3)	(4)	(5)	
<b>G.(1) Details pertaining to maternity benefit:</b>					
Sl.No.	No. of female employees	No. of female employees availed maternity leave	No. of female employees paid medical bonus	No. of deduction of wages, if any made from female employees	
(1)	(2)	(3)	(4)	(5)	

**(2) Number of Employees received the Benefits as given below :**

Sl.No.	Miscarriage	Confinement	Illness	Medical Bonus	Total
(1)	(2)	(3)	(4)	(5)	(6)

(3) Number of women who gave notice under Section 72 of the Code on Social Security, 2020:

(4) Number of women who were granted permission to absent on receipt of notice of confinement:

(5) Cases in which payment was made to persons other than the woman concerned:

(6) Cases in which payment was made on the order of the Appellate Authority or Inspector-cum-Facilitator:

(7) Cases in which additional leave for illness under Section 72 was applied for but was rejected:

(8) Total Number of Women deprived of maternity benefit and or medical bonus under proviso to of Section 72 of the Code on Social Security, 2020:

(9) Number of cases where prenatal confinement and postnatal care was provided by the management free of charge under Section 72 of the Code on Social Security, 2020:

<b>H. Details of payment of bonus:</b>			
Sl.No.	No. of employees covered under the Bonus provision	Total amount of bonus actually paid	Date on which the Bonus paid
(1)	(2)	(3)	(4)

**I. Details of accidents, dangerous occurrence and notifiable diseases:**

Sl. No.	Total number of non-fatal accidents by which a person injured is prevented from working for a period of 48 hours or more as per Section 10 of the OSH Code, 2020.	Total number of fatal accidents and names of the deceased as per Section 10 of the OSH Code, 2020.	Total number of Dangerous Occurrences as defined under Section 11 of the OSH Code, 2020	Total number of cases of Notifiable Diseases specified in Third Schedule of the OSH Code, 2020 along with the details of affected persons
(1)	(2)	(3)	(4)	(5)

**J. Man days and Production Lost due to accidents / dangerous occurrence**

Sl. No.	Accident/Dangerous Occurrence	Man days lost	Production Lost
(1)	(2)	(3)	(4)

**K. Particulars of Employment:**

Sl. No. (1)	(2)	Number of Man days worked during the year (3)	Number of Man hours worked during the year (4)			Average Number of Hours worked per Week (5)	Total amount of Salary/ wages paid including allowances (6)	
			Normal	OT	Total		In Cash	In Hand
	Men							
	Women							
	Transgender							
	Total							

**L. Particulars of Earned Leave with Wages:**

Sl. No. (1)	(2)	Total Number of Persons Employed (3)	Total Number of employees eligible for earned leave (4)	Number of employees availed/ granted earned leave (5)	Number of employees discharged/ dismissed/ terminated/ resigned/ retired/ died during the year (6)	Number of employees paid wages / salary in lieu of earned leave (7)
	Men					
	Women					
	Transgender					
	Total					

**M.(i) Particulars of Deductions made from Salary**

Sl.No.		Number of employees involved	Total amount of deductions made
(1)	(2)	(3)	(4)
	Fines		
	Damage or loss		
	Others		
	Total		

(ii) Total wages including deductions:

Sl.No.	Basic Wage	Dearness Allowance	Over time	Non-profit sharing bonus	Other allowance in cash	Arrears of pay in respect of previous year paid during the year	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

**N. Particulars of Product and Manufacturing process (Applicable to Factories only)**

1.Nature/ Type of Industry :

- a. Manufacturing process-  
b. NIC code-

2. Particulars of Products Manufactured/ Services Rendered:

Sl. No.	Name of the Product / Service	Capacity (in relevant terms)	Quantity Manufactured (in relevant terms)	Value (in Indian Rupees)
(1)	(2)	(3)	(4)	(5)

3. (a) Does the establishment carry out,--

(i) any process or operation declared dangerous under section 82 of the Code?

(ii) Any Hazardous Process under section 2(za) of the Code?

(b) Name of the dangerous processes or operations/ hazardous process carried on/ average number of persons employed daily in each of the processes or operations.

Certified that the tables in prescribed format are duly filled in and information and /figures given in all the tables are correct to the best of my knowledge.

Place:

Signature of the Employer/Occupier

Dated:

**FORM X****(see rule 36)****REGISTER OF ACCIDENTS AND DANGEROUS OCCURRENCES**

Sl No.	Name and ESI Number of the person Injured/died	Date of Accident or dangerous occurrence	Date of report to Inspector- cum- facilitator	Nature of accident or dangerous occurrence	Date of return of injured Person to work	Number of days the injured person was absent from work
(1)	(2)	(3)	(4)	(5)	(6)	(7)

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**FORM XI****(see rule 37)****REGISTER FOR LEAVE WITH WAGES**

Name of the Establishment:

Name of worker:

Registration Number (DISH/COL):

Father's Name:

Department:

Sl. No	Sl. No. in the employee register	Date of entry into service	Interruptions					Leave due with effect from	Whether leave not desired during the next 12 months	Date from which the worker is allowed leave	Wages for Leave Paid in	Discharged worker		Remarks
			Sickness and accidents	Authorized Leave	Lock Out or Legal Strike	Involuntary unemployment	Others					Date of Discharge	Date & amount of payment made in lieu of leave due	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)

**Note:-** Separate page shall be allotted to each worker

## FORM XII

(see rules 45, 48, 53 and 54)

## APPLICATION FOR LICENCE

<b>Online Application for Licence/ Renewal of Licence/Amendment of Licence (including single licence)</b>						
<b>ESTABLISHMENT PROFILE:</b>						
Labour Identification Number				Date		
Licence Number (DISH/COL)				Date		
Acknowledgement Number: ..... Date of Application: .....						
<b>I. Particulars of Establishment for which licencerequired:</b>						
1. Name of Establishment:						
2. Address of establishment						
(a) Head Office address along with email Id :						
(b) Corporate office address along with email Id:						
3. Telephone Number :						
4. Activity as per National Industrial Classification : (Select all applicable activities given)						
5. Details of selected NIC Code:						
6. Nature of work carried on in main establishment :						
7. Identifier of the Establishment : (Select) : esign/digital sign						
<b>II. Details of Employer:</b>						
1. Full Name of Employer: ..... relationship with establishment.						
2. Full Address of Employer:						
3. Registration Number of the Establishment (DISH/COL) :						
4. Email Id of employer:						
5. Mobile No. of employer:						
<b>III. Particulars of the Contract Labour to be employed / is employed (If licence is required work wise)</b>						
Locations of worksites	Name of works	Activity as per national industrial classification	Date of commencement	Date of completion	Name of Establishments in which contract labour is/proposed to be employed	Name Address, email id of the Site Incharge
(1)	(2)	(3)	(4)	(5)	(6)	(7)

5. Maximum number of workmen proposed to be employed on the Establishment on any date:					
6. Amount of Licence Fee: <b>INR</b>		<b>Transaction No :</b>		<b>Date of Payment:</b>	
7. Amount of Security Deposit: <b>INR</b>		<b>Transaction No :</b>		<b>Date of Payment:</b>	
<b>IV. DETAILS OF ESTABLISHMENTS FOR WHICH SINGLE LICENCE IS REQUIRED (IF APPLYING FOR)</b>					
Sl. No	Name and address of the establishments and the respective licence numbers of the contractor	Name of each work	Maximum number of labour employed	Date of commencement	Probable date of completion
(1)	(2)	(3)	(4)	(5)	(6)
<b>Signature of Contractor</b>					
<b>(eSign/DSC)</b>					
<b>Note:</b> This is an online application summary applied on Online Portal of the Directorate of Industrial Safety and Health/ Labour Welfare Department.					
<b><u>APPLICATION FOR RENEWAL OF LICENCE</u></b>					
1.LicenceNo. (DISH/COL)			Date :		
2. LIN & PAN:					
2. Name and address of the establishment:					
3. Date of expiry of previous licence :					
4. Whether the licence of the employer/contractor was suspended or revoked:					
5. Details of Fees paid: (Enclose e-payment receipt):Amount.... date of payment:					
E-sign /digital sign of the employer/contractor date:					

<b>APPLICATION FOR AMENDMENT OF LICENCE :</b>	
1.LicenceNo (DISH/COL)	Date:
2. LIN & PAN	
3. Name and address of the establishment:	
4.Details for which amendment is sought :	
(a). Maximum number of worker presently employed : (If there is increase in the maximum number of workers to be employed, then additional fees/security deposit as per law needs to be deposited:	
(b). Details of fees paid through e payment date on which made :	
(c). Other details requiring amendment in the licence issued (Necessary documents may be uploaded in support of change required)	

E-sign /digital sign of the employer/contractor

date of application.



**FORM XIII**

(see rule 46)

**LICENCE**

Licence No.-----

Reg.No.-----

Date of Reg.-----

Fees:

Security Deposit:

Licence is here by granted to..... under Section 48 of the Occupational Safety, Health and Working Conditions Code, 2020 for engaging contract labour in the establishments and nature of work as mentioned hereunder.

Sl.No.	Name and address of the establishments	Name of each work	Maximum number of Contract labour /workers on any one day
(1)	(2)	(3)	(4)

This licence shall remain in force till .....

Dated:

Issuing Authority

**AMENDMENTS:**

Date of Amendment	Name and address of the establishment	Name of each work	Maximum number of Contract labour /workers on any one day
(1)	(2)	(3)	(4)

Dated:

Issuing Authority

## FORM XIV

(see rule 57)

## EXPERIENCE CERTIFICATE OF CONTRACT LABOUR

<u>To whom so ever concerned</u>
1. Name of contractor/employer*:
2. LIN/PAN No. of the contractor/employer *:
3. Email Id of the contractor /employer*:
4. Mobile No. of the contractor/employer *:
5. Nature and location of work:
6. Name of Principal Employer*:
7. LIN/PAN No. of the Principal Employer:*
8. Registration number of the establishment(DISH/COL)
9. Email Id of the Principal Employer : *
10. Mobile No. of the Principal Employer :*
11. Name of the worker*:
12. UAN / Aadhar No.:
13. Mobile No. :
14. Serial Number in the Employee Register:
15. Registration number, date and name of the Board if the building and other construction worker is registered as a beneficiary:
16. Period of Employment:
17. Designation:

Seal and Signature of Contractor/employer\*

\*Please strike off whichever is not applicable.

**FORM XV**  
**(see rule 58)****APPLICATION FORM**

- a) Name of aggrieved party:
- b) Address for communication:
- c) Details of grievance:
- d) Reasons of claim:
- e) Details of documents attached:

Signature of aggrieved party

## FORM XVI

(see rules 64, 66, 68 and 70)

## APPLICATION FOR LICENCE TO BEEDI AND CIGAR ESTABLISHMENTS

<b>On Line Application for Licence/ Renewal of Licence/Amendment of Licence (including Common/single licence)</b>	
Labour Department	
<b>ESTABLISHMENT PROFILE:</b>	
Labour Identification Number	Date
Acknowledgement Number: ..... Date of Application: .....	
<b>I. Particulars of Establishment for which licence required:</b>	
1. Name of Establishment:	
2. Address of establishment	
(a) Head Office address along with email Id :	
(b) Corporate office address along with email Id:	
3. Telephone Number :	
4. Activity as per National Industrial Classification : (Select all applicable activities given)	
5. Details of selected NIC Code:	
6. Nature of work carried on in main establishment :	
7. Identifier of the Establishment : (Select) : esign/digital sign	
<b>II. Details of Employer:</b>	
1. Full Name of Employer: ..... relationship with establishment.	
2. Full Address of Employer:	
3. Email Id of employer:	
4. Mobile No. of employer:	

## III. DETAILS OF ESTABLISHMENTS FOR WHICH SINGLE LICENCE IS REQUIRED (IF APPLYING FOR)

Name and Address of the establishments	RC No and Date	Trade Mark details	Maximum number of employees proposed to be employed		Period of Licence	Amount of Licence Fee
			Industrial Workers	Home Worker		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

## IV. DETAILS OF ESTABLISHMENTS FOR WHICH COMMON LICENCE REQUIRED , (IF APPLYING FOR)

Name and Address of the establishments	RC No and Date	Trade Mark details	Maximum number of employees proposed to be employed		Period of Licence	Amount of Licence Fee
			Industrial Workers	Home Worker		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

**V. PARTICULARS OF THE CONTRACT LABOUR TO BE EMPLOYED / IS EMPLOYED (IF LICENCE IS REQUIRED WORKWISE)**

Address of work sites and name of Site In-Charge	Name of works	Activity as per national industrial classification	Date of commencement	Date of completion	Name of Establishments in which contract labour is/proposed to be employed	Details of ISM Workers proposed to be employed
(1)	(2)	(3)	(4)	(5)	(6)	(7)
6. Amount of Licence Fee: <b>INR</b> ( Transaction Id : )						
7. Amount of Security Deposit: <b>INR</b> ( Transaction Id : )						

<b>Signature of employer</b>
<b>(eSign/DSC)</b>
<b>Note:</b> This is an online application summary applied on Online Portal of Labour Welfare Department.
<b><u>VI. APPLICATION FOR RENEWAL OF LICENCE -</u></b>
1.a . Licence No. _____ Date : _____
b. Registration No. _____ Date : _____
2. LIN & PAN
2. Name and address of the establishment:
3. Date of expiry of previous licence :
4. Whether the licence of the employer/contractor was suspended or revoked:
5. Details of Fees paid : (Enclose e-payment receipt):Amount.... date of payment:
E-sign /digital sign of the employer/contractor date:

<b><u>VII. APPLICATION FOR AMENDMENT OF LICENCE :</u></b>
1.a. Licence No _____ Date: _____
b. Registration No. _____ Date : _____
2. LIN & PAN
3. Name and address of the establishment:
4.Details for which amendment is sought :
(a). Maximum number of worker presently employed : (If there is increase in the maximum number of workers to be employed, then additional fees/security deposit as per law needs to be deposited:
(b). Details of fees paid through e payment date on which made :
(c). Other details requiring amendment in the licence issued (Necessary documents may be uploaded in support of change required)

<b>VIII. APPLICATION FOR TRANSFER OF LICENCE :</b>
1. Licence No    Date:
2. LIN & PAN
3. Name and address of the establishment:
4.Details for which transfer is sought :
(a). Maximum number of worker presently employed : (If there is increase in the maximum number of workers to be employed, then additional fees/security deposit as per law needs to be deposited:
(b). Details of fees paid through e payment date on which made :
(c). Other details requiring transfer in the licence issued (Necessary documents may be uploaded in support of change required)
<b>IX. APPLICATION FOR PERMISSION TO WORK BY EMPLOYEES OUTSIDE INDUSTRIAL PREMISES:</b>
1. Licence No    Date:
2. LIN & PAN
3. Name and address of the establishment:
4.Details of employees ( work outside the industrial premises for wetting or cutting of a beedi or tobacco leaves): i.    Male : ii.    Female : iii.    Total :
5. Details of places of work to be carried out in the place outside the licenced premises :
6. Other details if any

E-sign /digital sign of the employer/contractor

Date of application.

**FORM XVII****(see rules 65 and 66)****LICENCE / RENEWAL FOR BEEDI AND CIGAR ESTABLISHMENTS**

Licence No.-----

Reg. No.-----

Date of Reg.-----

Licence is here by granted to ..... for the premises known as .....  
situated at .....

for use as an establishment within the limits stated herein after, subject to provisions of the Occupational Safety, Health and Working Conditions Code, 2020, and the rules made there under.

Sl.No.	Period of issue	Valid For	Fee	Date of Payment	Excess fee for late Payment	Date of payment	Signature of the Issuing Authority
		Maximum number of beedi and cigar workers on any one day					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

**AMENDMENT / TRANSFER :**

Date and Year when Amended	Maximum number of beedi and cigar workers on any one day	Date of payment of amendment fee	Date of Payment	Signature of the Issuing Authority
(1)	(2)	(3)	(4)	(5)

Date:

Issuing Authority:

**FORM XVIII****[see rule 71 (2)]****GRANTING PERMISSION FOR BEEDI AND CIGAR ESTABLISHMENTS ENGAGING EMPLOYEES  
OUTSIDE THE INDUSTRIAL PREMISES**

Licence No.-----

Reg. No.-----

Date of Reg.-----

Permission is hereby granted for wetting and cutting of beedi and tobacco leave by employees outside the industrial premises known as ..... situated at ...

subject to provisions of the Occupational Safety, Health and Working Conditions Code, 2020, and the rules made there under.

Sl.No.	Name and address of the establishment seeking permission	Place where wetting and cutting operation to be carried out	Maximum number of beedi and cigar workers engaged on any one day	Signature of the Issuing Authority
(1)	(2)	(3)	(4)	(5)

**Date:****Issuing Authority:**



**FORM XVIII-A**

[see rule 71 (3)]

**EMPLOYMENT REGISTER FOR WORK TO BE CARRIED OUT SIDE THE INDUSTRIAL PREMISES**

Licence No.-----

Reg. No.-----

Date of Reg.-----

Month ending -----

Sl.No.	Name of the employee	Address of the location where workers engaged outside the industrial premises	Details of wetting and cutting work carried out	Wages paid	Dates
					<div style="display: flex; justify-content: space-between; width: 100%;"> <span>1 2 3 4 5 6 7 8 9 10 11 12 13</span> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>14 15 16 17 18 19 20 21 22</span> </div> <div style="display: flex; justify-content: space-between; width: 100%;"> <span>23 24 25 26 27 28 29 30 31</span> </div>

Date:

Employer Signature: .....

**FORM XVIII-B**

(see rule 71(3))

**HOME-WORKERS LOG BOOK**

1. Name of the home – worker.
2. Name and address of the employer.
3. Address of the home where manufacturing process is carried on.
4. Month of Account of the work done at homes.

Date	Whether work was done	Number of Beedies / Cigars manufactured	Wages received	Deductions	
				Provident Fund	Family Pension Scheme
				(a)	(b)
(1)	(2)	(3)	(4)	(5)	

5. Total number of days worked in the month.

Signature of the employer or his representative or his authorised Contractor with the seal of the employer

Date and signature or thumb-impression of the Home-Worker.

(see rule71(3))

1. Name and address of the Beedi and Cigar Establishment.
2. Full name and address of the employer of the Beedi and Cigar Establishment.
3. Full name and address of the employee.
4. (a) Father's name.  
(b) Family members of the employee.
5. (a) Date of entry into service  
(b) Date of birth of the employee.
6. Designation of the employer on his entry into service and any subsequent change therein with its date.
7. Details of basic wages and allowances and any subsequent changes therein with dates of such change.
8. Employee's passport size photo with signature or thumb-impression thereto.

Signature of the employer of the Beedi  
and Cigar Establishment with date.

**[see rule 71(3)]**

Serial number	Name and Designation	Date of appointment.	Date of issue of Service Book to the employee.	Date when received back from him for making entry.	Date of issue after making entry.	Date of receipt of application duplicate copy.	Date when duplicate copy issued.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

**[see sub-rule 71(3)]**

Month ending-----

( Beedis Manufactured should be shown in respect of each home-worker below the appropriate date)

[illegible]

**[see sub-rule 71(3)]**

## MONTH ENDING -----

	Name
(1)	(2)
	Designation
(3)	Date on which overtime has been worked
(4)	Extent of overtime
(5)	Total overtime work or production in case of piece workers
(6)	Normal hours
(7)	Normal rate of pay
(8)	Overtime rate of pay
(9)	Normal earnings
(10)	Overtime earnings
(11)	Cash equivalent of advantage accruing through the concessional sale of food grains etc.
(12)	Total earnings
(13)	Date on which overtime payment made

**FORM XIX**

[see rule 72(2)]

**APPLICATION FOR PERMISSION TO CONSTRUCT, EXTEND OR TAKE INTO USE ANY BUILDING AS A FACTORY**

1.	<b>Particulars of the Occupier</b>		Photo of the Occupier
	<b>Name :</b> _____ <b>Age</b> _____ <b>Gender :</b> _____ <b>Date of Birth :</b> _____ <b>Father's / Husband's Name :</b> _____		
	<b>Present Address</b>	<b>Permanent Address</b>	
	<b>Email ID :</b> _____ <b>Phone Number</b> _____ <b>Mobile Number :</b> _____ <b>Fax Number :</b> _____ <b>DIN Number(if applicable) :</b> _____ <b>Proof of Address Furnished :</b> _____ <b>Address Proof Number</b> _____ <b>Nationality :</b> _____ <b>Aadhar No.(UID)</b> _____ <b>Passport Number ( if foreigner) :</b> _____ <b>Visa Type ( if foreigner ) :</b> _____ <b>Visa valid upto :</b> _____		
2.	<b>Particulars of the Owner of the Building / Premises :</b>		Photo of the Owner
	<b>Name :</b> _____ <b>Age</b> _____ <b>Gender :</b> _____ <b>Date of Birth :</b> _____ <b>Father Name :</b> _____		
	<b>Present Address</b>	<b>Permanent Address</b>	
	<b>Email ID :</b> _____ <b>Phone Number</b> _____ <b>Mobile Number :</b> _____ <b>Fax Number :</b> _____ <b>Proof of Address Furnished :</b> _____ <b>Address proof Number</b> _____ <b>Nationality :</b> _____ <b>Aadhar No.(UID)</b> _____		
3.	<b>Particulars of the Factory</b>		
	<b>Name of the factory:</b> _____ <b>Nature / Type of Industry :</b> _____ <b>Sector :</b> _____ <b>Registration number :</b> _____		
	<b>Postal Address</b>		
		<b>Email ID :</b> _____ <b>Mobile Number</b> _____ <b>Website :</b> _____ <b>Phone Number</b> _____ <b>Fax number :</b> _____ <b>CIN Number ( if applicable)</b> _____	

4.	<b>Situation of the factory and survey number / Door number of the factory with relevant documentary proof of the Occupancy / Ownership of the factory</b>						
	Survey No. :		Door No. / Plot No./RS :				
	Street/Road :		Area/ Locality :				
	Town / Village :		Local Body name :				
	Local Body Type :		Ward No. :				
	Taluk :		District :				
	State :		Nearest Railway Station :				
	Nearest Police Station :		Nature of occupation :				
5.	<b>Purpose for which plans are submitted</b>						
	State whether initial approval / additional installation / additional construction / changes in installation.						
6.	<b>Particulars of previous plan approvals</b>						
	Sl. No.	Approved By	Approval Number	Date of Approval			
	(1)	(2)	(3)	(4)			
7.	<b>Total proposed capacity in Horse Power ( in case of initial approval )</b>						
	State the maximum quantity (in H.P.) of the proposed machinery :						
8.	<b>Total installed capacity in Horse Power ( in case of additional installation / changes in installation )</b>						
	<p>(a) Approved H.P. in Earlier Plans :</p> <p>(b) Deletion(if any) :</p> <p>(c) Addition :</p> <p><b>Total Horse Power</b> :</p>						
9.	<b>Maximum number of workers proposed to be employed on any one day in the factory</b>						
	<p>Number of male workers :</p> <p>Number off the male workers :</p> <p>Total number of workers :</p>						
10.	<b>Details of manufacturing process</b>						
	Describe the manufacturing process in brief ( Attach / enclose process flow chart )						
11.	<b>Details of the chemicals with storage quantity</b>						
	Sl. No.	Name of the chemical	Place of storage	Storage type	Storage capacity	Capacity under process	Total Maximum Storage Capacity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
		--	--		--	--	--
12.	<b>Details of Dangerous Operations</b>						
	Whether the factory is engaged in any dangerous operations prescribed under <b>Rule 81</b> of Tamil Nadu Occupational safety, health and working conditions rules, 2022. (Specify if applicable)						

13.	<b>Details of Hazardous Processes</b>
	Whether the factory is engaged in any hazardous process defined under Section 2(za) of Occupational safety, health and working conditions Code, 2020 (Specify if applicable)

Place:

Date :

Submitted To

Signature of the occupier

## FORMXX

[see rule 72(9)]

## STABILITY CERTIFICATE

1. Name of the factory and registration number:
2. Address of factory:
3. Name of occupier of the factory:
4. Nature of manufacturing process to be carried on in the factory:
5. Number of floors of the factory:

I certify that I have inspected the building/buildings on the \_\_\_\_\_ in which \_\_\_\_\_ is housed and examined, the various parts including the foundations as shown in the complete plans approved by the Chief / Joint Chief / Deputy Chief Inspector-cum-Facilitator in his letter No \_\_\_\_\_ dated \_\_\_\_\_ with special reference to the machinery, plant, etc. that have been installed. I am of the opinion that the building/buildings which has/have been constructed/reconstructed/extended/taken into use is/are in accordance with the plans approved by the Chief / Joint Chief / Deputy Chief Inspector-cum-Facilitator in his letter No \_\_\_\_\_ dated \_\_\_\_\_, that it/they is/are structurally sound and that its/their stability will not be endangered by its use as a factory/part of the factory for the manufacture of \_\_\_\_\_ for which the machinery, plant etc. installed are intended.

Signature of competent person

(Name, designation and qualification)

Date:

Address:

Place :

## FORM XXI

(see rules 73, 75 and 79)

APPLICATION FOR GRANT OR RENEWAL OF LICENCE FOR THE YEAR \_\_\_\_\_

1	<b>Particulars of the Occupier</b> [ Person who has ultimate control over the affairs of the factory and in whose name the licence is to be issued - Referred to in Section 2(zs) ]																											
	Name : Gender : Father's/Husband's Name :	Age : Date of Birth :	<div style="border: 1px solid black; padding: 5px; text-align: center;">           Photo of the Occupier         </div>																									
	Present Address : Permanent Address :																											
	<table border="0" style="width: 100%;"> <tr> <td>Email ID :</td> <td>Phone Number :</td> </tr> <tr> <td>Mobile Number :</td> <td>Fax Number :</td> </tr> <tr> <td>DIN Number(if applicable) :</td> <td></td> </tr> <tr> <td>Proof of Address Furnished :</td> <td>Address Proof Number :</td> </tr> <tr> <td>Nationality :</td> <td>Aadhar No.(UID) :</td> </tr> <tr> <td>Passport Number ( if foreigner ) :</td> <td>Visa Type ( if foreigner ) :</td> </tr> <tr> <td>Visaval id upto :</td> <td></td> </tr> </table>			Email ID :	Phone Number :	Mobile Number :	Fax Number :	DIN Number(if applicable) :		Proof of Address Furnished :	Address Proof Number :	Nationality :	Aadhar No.(UID) :	Passport Number ( if foreigner ) :	Visa Type ( if foreigner ) :	Visaval id upto :												
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Nationality :	Aadhar No.(UID) :																											
Passport Number ( if foreigner ) :	Visa Type ( if foreigner ) :																											
Visaval id upto :																												
	Please provide the following particulars for every factory if common licence is required under Rule 79																											
2.	<b>Particulars of the Factory</b> <table border="0" style="width: 100%;"> <tr> <td>Full name of the factory :</td> <td>Nature / Type of Industry :</td> </tr> <tr> <td>Registration Number ( if already registered ) :</td> <td>Sector :</td> </tr> </table>			Full name of the factory :	Nature / Type of Industry :	Registration Number ( if already registered ) :	Sector :																					
Full name of the factory :	Nature / Type of Industry :																											
Registration Number ( if already registered ) :	Sector :																											
3.	<b>(a) Situation of the factory ( Door No., Survey Nos., etc. )</b> <table border="0" style="width: 100%;"> <tr> <td>Survey No. :</td> <td>Door No. / Plot No./RS :</td> </tr> <tr> <td>Street/Road :</td> <td>Area/ Locality :</td> </tr> <tr> <td>Town / Village :</td> <td>Local Body name :</td> </tr> <tr> <td>Local Body Type:</td> <td>Ward No. :</td> </tr> <tr> <td>Taluk :</td> <td>District :</td> </tr> <tr> <td>State :</td> <td>Nearest Police Station :</td> </tr> </table> <b>(b) Address for communications</b> <table border="0" style="width: 100%;"> <tr> <td style="width: 40%;"></td> <td>Phone Number :</td> </tr> <tr> <td></td> <td>Mobile Number :</td> </tr> <tr> <td></td> <td>Fax Number :</td> </tr> <tr> <td></td> <td>Email ID :</td> </tr> <tr> <td></td> <td>Website :</td> </tr> <tr> <td></td> <td>CIN Number ( if applicable ) :</td> </tr> </table>			Survey No. :	Door No. / Plot No./RS :	Street/Road :	Area/ Locality :	Town / Village :	Local Body name :	Local Body Type:	Ward No. :	Taluk :	District :	State :	Nearest Police Station :		Phone Number :		Mobile Number :		Fax Number :		Email ID :		Website :		CIN Number ( if applicable ) :	
Survey No. :	Door No. / Plot No./RS :																											
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	Mobile Number :																											
	Fax Number :																											
	Email ID :																											
	Website :																											
	CIN Number ( if applicable ) :																											
4.	<b>Particulars of the Owner of the Premises or Building</b> <table border="0" style="width: 100%;"> <tr> <td>Type of Ownership :</td> <td>Organisation :</td> </tr> <tr> <td>Designation :</td> <td>Name :</td> </tr> <tr> <td>Father's/ Husband's Name:</td> <td>Gender : Age : Date of Birth:</td> </tr> </table> <table border="0" style="width: 100%;"> <tr> <td style="width: 40%;">Present Address</td> <td style="width: 30%;">Permanent Address</td> <td style="width: 30%;"></td> </tr> <tr> <td></td> <td></td> <td style="text-align: center; vertical-align: middle;">Photo of the Owner</td> </tr> </table>			Type of Ownership :	Organisation :	Designation :	Name :	Father's/ Husband's Name:	Gender : Age : Date of Birth:	Present Address	Permanent Address				Photo of the Owner													
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	<table> <tr> <td>Email ID</td><td>:</td><td>Phone Number</td><td>:</td></tr> <tr> <td>Mobile Number</td><td>:</td><td>Fax Number</td><td>:</td></tr> <tr> <td>Address Proof Furnished</td><td>:</td><td>Address Proof</td><td>:</td></tr> <tr> <td>Nationality</td><td>:</td><td>Aadhar (UID)</td><td>:</td></tr> </table>	Email ID	:	Phone Number	:	Mobile Number	:	Fax Number	:	Address Proof Furnished	:	Address Proof	:	Nationality	:	Aadhar (UID)	:
Email ID	:	Phone Number	:														
Mobile Number	:	Fax Number	:														
Address Proof Furnished	:	Address Proof	:														
Nationality	:	Aadhar (UID)	:														
5.	<p align="center"><b>Nature of manufacturing process / processes</b></p> <p>(a) Carried on during preceding calendar year ( in case of factories already in existence ).</p> <table> <tr> <td>Manufacturing process description</td><td>National Industrial Classification Code</td></tr> <tr> <td></td><td></td></tr> </table> <p>(b) To be carried on during the calendar year for which this application for licence is submitted.</p> <table> <tr> <td>Manufacturing process description</td><td>National Industrial Classification Code</td></tr> <tr> <td></td><td></td></tr> </table>	Manufacturing process description	National Industrial Classification Code			Manufacturing process description	National Industrial Classification Code										
Manufacturing process description	National Industrial Classification Code																
Manufacturing process description	National Industrial Classification Code																
6.	<p align="center"><b>Particulars of products manufactured during preceding calendar year</b></p> <table> <tr> <td></td></tr> </table>																
7.	<p align="center"><b>Particulars of the Power in H.P.</b></p> <p>(a) Particulars of power actually installed</p> <table> <tr> <td>Quantity in H.P.</td><td>:</td><td>Stand by H.P.</td><td>:</td></tr> </table> <p>(b) Particulars of power proposed to be additionally installed [ If any during the calendar year for which this application for licence is made ]</p> <table> <tr> <td>Quantity in H.P.</td><td>:</td><td>Stand by H.P.</td><td>:</td></tr> </table> <p>(c) Maximum quantity in H.P. that can be used. [ At any one time during the calendar year for which this application for licence is made ]</p> <table> <tr> <td>Maximum quantity in H.P.</td><td>:</td></tr> </table>	Quantity in H.P.	:	Stand by H.P.	:	Quantity in H.P.	:	Stand by H.P.	:	Maximum quantity in H.P.	:						
Quantity in H.P.	:	Stand by H.P.	:														
Quantity in H.P.	:	Stand by H.P.	:														
Maximum quantity in H.P.	:																
8.	<p align="center"><b>Particulars of the number of workers</b></p> <p>(a) Maximum number of workers proposed to be employed on any one day during the calendar year for which this application is made. [See slab limits in table to Rule 74 of Tamil Nadu Occupational safety, health and working conditions rules, 2022]</p> <table> <tr> <td>Maximum number of workers:</td></tr> </table> <p>(b) Maximum number of workers actually employed on any one day during the preceding calendar year</p> <table> <tr> <td>Maximum number of workers</td></tr> </table> <p>(c) Number of workers ordinarily to be employed</p> <table> <tr> <td>Number of workers</td></tr> </table>	Maximum number of workers:	Maximum number of workers	Number of workers													
Maximum number of workers:																	
Maximum number of workers																	
Number of workers																	
9.	<p align="center"><b>Period for which grant / renewal of licence application is submitted</b></p> <table> <tr> <td>Indicate the exact calendar year / years</td><td>:</td><td>Number of calendar years</td><td>:</td></tr> </table>	Indicate the exact calendar year / years	:	Number of calendar years	:												
Indicate the exact calendar year / years	:	Number of calendar years	:														
10.	<p align="center"><b>Particulars of the plan approval</b> [ Reference number and date of the latest approved plan]</p> <table> <tr> <td>Approved By</td><td>Approval Number</td><td>Date of Approval</td></tr> <tr> <td></td><td></td><td></td></tr> </table>	Approved By	Approval Number	Date of Approval													
Approved By	Approval Number	Date of Approval															

11.	<b>Particulars of the licence fee payment</b>	
	Initial / renewal licence fee paid in Rupees ( INR ) :	
12.	Particulars Of Payment	<b>Online Payment</b> Payment Reference Number : Date of payment : Bank Name : Fees :
13.	<b>Particulars of the contribution to Tamil Nadu labour welfare fund</b>	
	[ For the previous year ]	
	Amount remitted towards labour welfare fund in Rupees ( INR ) :	Mode of payment :
	Payment referencenumber :	Date of payment :

Signature of the Occupier

Date :

Submitted to :

**FORM XXII****[see rule 73(4)]****LICENCE TO WORK A FACTORY / FACTORIES**

Licence is hereby granted / renewed to \_\_\_\_\_ valid for the premises detailed below for use as a factory / factories employing not more than the number of workers on any one day during the year and using installed horse power inclusive of mobile equipment not exceeding the horse power mentioned in column (4) and (5) of the table appended below, subject to the provisions of the Tamil Nadu Occupational safety, Health and working conditions Rules, 2022.

This licence shall remain in force till the 31st day of December, \_\_\_\_\_

**Description of Licenced Premises**

Registration number	Name and address of the factory	Plan approval number and date	Maximum number of workers employed on any one day	Maximum installed Horse power inclusive of mobile equipment	Licence Fees
(1)	(2)	(3)	(4)	(5)	(6)

Date:

Signature of the Licensing authority

**FORM XXIII**  
**(Prescribed under the schedules of rules 81 and 91)**  
**CERTIFICATE OF FITNESS**

Certificate number:

Date:

1. Serial Number and employee code in employee register:

2. Name of the person examined:

3. Gender:

4. Process or department in which the person  
is employed or to be employed:

5. Descriptive marks:

6. Whether certificate granted :

(i) I Certify that I have personally  
examined.....(name) s/o.....(father's name)  
residing at.....(address) who is desirous of being  
employed in or employed in (department and process)  
of (name of the factory) and that as nearly as can be  
ascertained from my examination is fit / unfit for  
employment at the above noted factory. He is fit to be  
employed and may be employed on some other non-  
hazardous operation such as.....

7. Whether declared unfit and certificate refused:

He may be produced for further examination after a  
period of.....

8. Reason for:

(1) refusal of certificate.....or  
(2) certificate being revoked.

He is advised the following further examination.....

9. Reference number of previous certificate granted or  
refused:

He is advised the following treatment. The serial  
number of the previous certificate is.....

L.T.I./Signature of person examined:

Signature of the Medical officer:

*Note.*— Exact details of cause of physical disability should be clearly stated. The Counterfoil should be retained by the Medical officer and maintained in a bound book or in a file.

**FORM XXIV****(Prescribed under the schedules of rule 81 and 91)****HEALTH REGISTER**

(In respect of persons employed in occupations declared to be dangerous operations under section 82)

Sl. No.	Employee code in Employee register	Name of the employee	Gender	Date of employment in present work	Date of leaving or transfer to other work	Reason for leaving, transfer or discharge	Nature of job or occupation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Raw material or by-product handled	Dates of medical examination by Medical Officer and Results of Medical examination	If suspended from work state period of suspension with detailed reasons	Re-certified fit to resume duty on (with signature of Medical officer)	If certificate of unfitness or suspension issued to workers	Name and Signature with date of Medical officer
(9)	(10)	(11)	(12)	(13)	(14)

Note:

- (i) Column (7)- Detailed summary of reasons for transfer or discharge should be stated
- (ii) Column (10)- Should be expressed as fit/unfit/ suspended

## FORM XXV

(Prescribed under the schedules of rule 81)

**TEST REPORT ..... DUST EXTRACTING SYSTEM**

1 . Description of system	Design value	Actual value
2. Hood-		
(a) Serial number of hood		
(b) Contaminant captured		
(c) Capture velocities (at points to be specified)		
(d) Volume exhausted at hood		
(e) Hood static pressure		
3. Total pressure drop at -		
(a) Joints		
(b) Other points of system (to be specified)		
4. Transport velocity in duct (at points along ducts to be specified) -		
5. Air cleaning device-		
(a) Type used		
(b) Velocity at inlet		
(c) Static pr. at inlet		
(d) Velocity at outlet		
(e) Static pr. at outlet		
6. Fan-		
(a) Type used		
(b) Volume handled		
(c) Static pressure		
(d) Pressure drop at outlet		
7. Fan Motor-		
(a) Type		
(b) Speed and horse-power		

8. Particulars of defects, if any disclosed during test in any of the above components.

I certify that on this .....day of .....the above dust extraction system was thoroughly cleaned and (so far as its construction permits) made accessible for thorough examination. I further certify that on the said date, I thoroughly examined the above dust extraction system including its components and fittings and the above is true report of my examination.

Signature:

Qualification:

Address :

Date:

**FORM XXVI****[see rule 82(4)]****FORMAT OF APPLICATION TO THE SITE APPRAISAL COMMITTEE**

1. Name and address of the applicant

2. Site Ownership Data

2.1 Revenue details of site such as Survey No. Plot No. etc.

2.2 Whether the site is classified as forest and if so, whether approval by the Central Government under Section 5 of the Indian Forest Act, 1927 has been taken.

2.3 Whether the proposed site attracts the provisions of Section 3 (2) (v) of the Environment (Protection) Act, 1986 (Central Act 29 of 1986). If so the nature of the restrictions.

2.4 Local authority under whose jurisdiction the site is located.

3. Site Plan

3.1 Site Plan with clear identification of boundaries and total area proposed to be occupied and showing the following details nearby the proposed site.

(a) Historical monument, if any, in the vicinity

(b) Names of neighboring manufacturing units and human habitats, educational and training institutions, Petrol Installations, storages of LPG and other hazardous substances in the vicinity and their distances from the proposed unit.

(c) Water sources (rivers, streams, canals, dams, water filtration plants, etc.) in the vicinity.

(d) Nearest hospitals, fire stations, civil defense stations and Police Stations and their distances.

(e) High tension electrical transmission lines, pipe lines for water, oil, gas or sewerage, railway lines, roads, stations, jetties and other similar installations.

3.2 Details of soil conditions and depth at which hard strata obtained.

3.3 Contour map of the area showing nearby hillocks and differences in levels

3.4 Plot Plan of the factory showing the entry and exit points roads within water drains, etc.

4. Project Reports

4.1 A summary of the salient features of the project

4.2 Status of the organisation (Government, Semi-Government, Public or Private, etc.)

4.3 Maximum number of persons likely to be working in the factory

4.4 Maximum amount of power and water requirements and source of their supply

4.5 Block diagram of the buildings and installations in the proposed supply.

4.6 Details of housing colony, hospital, school and other infrastructural facilities proposed.

5. Organisations structure of the proposed manufacturing unit/factory



5.1 Organisation diagrams of proposed enterprise in general Health, Safety and Environment Protection Departments and their linkage to operation and technical departments

5.2 Proposed Health and Safety Policy

5.3 Area allocated for treatment of wastes and effluent

5.4 Percentage outlay on safety, health and environment protection measures

6. Meteorological data relating to the Site:

6.1 Average, minimum and maximum of Temperature Humidity Wind velocities during the previous ten years

6.2 Seasonal variations of wind directions

6.3 Highest water level reached during the floods in the area recorded so far

6.4 Lightning and seismic data of the area

7. Communication Links

7.1 Availability of telephone/telex/wireless and other communication facilities for outside communication

7.2 Internal Communication facilities proposed

8. Manufacturing Process Information

8.1 Process flow diagram

8.2 Brief write-up on process and technology

8.3 Critical process parameters such as pressure build-up temperature rise and run-away reactions

8.4 Other external effects critical to the process having safety implications, such as in grass of moisture or water, contact with incompatible substances, sudden power failure.

8.5 Highlights of the built-in safety/pollution control devices or measures incorporated in the manufacturing technology

9. Information of Hazardous Materials

9.1 Raw materials, intermediates, products and by-products and their quantities (enclose Material Safety Data Sheet in respect of each hazardous substance).

9.2 Main and intermediate storages proposed for raw materials intermediate/products /by-products (maximum quantities to be stored at any time).

9.3 Transportation methods to be used for materials in. flow and outflow, their quantities and likely routes to be followed

9.4 Safety measures proposed for

---Handling materials

---internal and external transportation

---disposal (packing and forwarding of finished products)

~ ~ ~

10. Information on Dispersal/Disposal of wastes and Pollutants

10.1 Major pollutants (gas, liquid, solid) their characteristics and quantities (average at peak loads)

10.2 Quality and quantity of solid wastes generated, method of their treatment and disposal

10.3 Air, Water and Soil Pollution problems anticipated and the proposed measures to control the same, including treatment and disposal of effluents.]

11. 135[Process Hazard Information].

11.1 Enclose a copy of the report on environmental impact assessment

11.2 Enclose a copy of the report on Risk Assessment Study.

11.3 Published (open or classified) reports, if any, on accident situations/occupational health hazards or similar plants elsewhere (within or outside the country).

12. Information of proposed safety and Occupational Health Measures

12.1 Details of fire fighting facilities and minimum quantity of water, CO<sub>2</sub> and or other fire-fighting measures needed to meet the emergencies.

12.2 Details of In-house medical facilities proposed.

13. Information on Emergency Preparedness.

13.1 On-site emergency plan.

13.2 Proposed arrangements, if any, for mutual aid scheme with the group of neighboring factories.

14. Any other relevant information.

I certify that the information furnished above is correct to the best of my knowledge and nothing of importance has been concealed while furnishing it.

Name and Signature of the Applicant

## FORM XXVII

[see rule 108(3)]

## RECORD OF LIME WASHING, PAINTING ETC.

Description of houses	Parts lime-washed, painted, varnished, or oiled, e.g. walls, ceiling wood-work etc.	Treatment whether lime-washed, painted, varnished or oiled	Date on which lime-washing, painting or varnishing was carried out (according to the English Calendar)			Remarks
			Date	Month	Year	
(1)	(2)	(3)	(4)	(5)	(6)	(7)

**FORM XXVIII**

(see rule 142(2))

**PERSONS ENGAGED IN PLANTATIONS IN CONNECTION WITH INSECTICIDES, CHEMICALS AND TOXIC SUBSTANCES, AND THEIR PERIODICAL MEDICAL EXAMINATION REPORT FOR THE YEAR 20\_\_.****1. NAME OF EMPLOYER AND ADDRESS:****1A. Employee Details :**

S. No.	Particulars	
1.	Name of the employee	
2.	Age	
3.	Father/Husband Name	
4.	Full address	
5.	Identification Marks	
6.	Date of appointment	
7.	Designation	

**2. PAST HISTORY**

illness	poisoning	allergy	exposure of pesticide	no.of years/ seasons	remarks if any
(1)	(2)	(3)	(4)	(5)	(6)

**3. FAMILY HISTORY**

Allergy	Psychological disorders	Haemorrhagic disorder
(1)	(2)	(3)

**4. PERSONAL HISTORY**

Smoking	Alcohol	Other addiction
(1)	(2)	(3)

**5. OBSERVATION**

Medical Examination	Pre-employment examination	End of year	Remarks
(1)	(2)	(3)	(4)

**I. GENERAL EXAMINATION**

General Body Limit :

Weight and Height :

Blood Pressure :

Respiration :

Anaemia :

Dadema:

Jaundice :

Skin condition :

Body Temperature :

Fatigability :

Sweating :

Sleep :

Urination :

**II. GASTRO – INTESTINAL**

Nausea:

Vomiting:

Appetite

Taste:

Pain in abdomen:

Bowel movement:

Liver:

Spleen:

**III.CARDIO-RESPIRATORY**

Nasal discharge:

Wheeze:

Cough:

Expectoration:

Tightness of chest:

Dyspnoea:

Palpitation:

Heart:

Cyanosis:

Tachycardia:

**IV.NEURO-MASCULAR**

Headache:

Dizziness:

Irritability:

Pulse:

Twitching:

Tremors:

Convulsion:

Pasesthesia:

V.URINE ROUTINE EXAMINATION

VI.URINE MICROSCOPIC;

VII. X - RAY of Chest:

VIII. Any other medical examination required

---

Advice given to

1.The Patient :

2.The employer

---

Steps taken by the employer as per doctor's advice

1.Patient

2.Employer

**FORM XXIX****[see rule 147]****PROFORMA FOR APPEAL BEFORE THE APPELLATE AUTHORITY AGAINST  
ORDER OF IMPOSING PENALTY**

To,

Appellate Authority

[Under section 111(2) of the Code]

..

Sir,

I undersigned with following details prefer an appeal against order of-----  
----- (details of officer imposing penalty) under section 111(2) of the  
Occupational Safety, Health and Working Conditions Code 2020.

1. Name and address of the establishment.
2. Name of the person preferring appeal and address details
3. Amount of penalty imposed by the officer.
4. Ground for Appeal with supporting documents

**Declaration**

I/We hereby declare that the particulars given above are true to the best of my/our knowledge and belief and I/We hereby declare that nothing has been concealed or any fact has been mis-represented in the above calculation made by me/us.

Signature of person preferring appeal Name:

Date :

Place :

Mobile No. :

E-mail(if any):

**FORM XXX****[see rule 148 (2)]****APPLICATION UNDER SUB-SECTION(1) OF SECTION 114 FOR COMPOSITION OF  
OFFENCE**

To,

The authorised officer [under Section 114(1)]

1. Name of applicant.....
2. Father's/Husband's name of the applicant.....
3. Address of the applicant.....
4. Name and Address of establishment in relation to applicant.....
5. Particulars of the offence.....
6. Section of the Code under which the offence is committed.....
7. Maximum fine provided for the offence under the Code.....
8. Whether prosecution against the applicant is pending or not.....
9. Whether the offence is first offence or the applicant had committed any other offence prior to the offence, if had committed, then, full detail of the offence.....
10. Any other information which the applicant desires to provide .....

Applicant

(Name and signature)

Dated:



**FORM XXXI**  
[see rule 148 (10)]

**COMPOUNDING / COMPOSITION REGISTER**

Office of the \_\_\_\_\_ (Address of office)

For the month of \_\_\_\_\_ (Name of month with year)

S.No	Name and address of the person on whom offence compounded	Name and address of establishment in relation to person on whom offence compounded	Date and number of reference of Compounding/ Composition	Offences which are compounded
(1)	(2)	(3)	(4)	(5)

Amount of penalty	Date of deposit	Whether appeal preferred	Signature of officer	Remarks
(6)	(7)	(8)	(9)	(10)

- (a) Total penalty collected at the end of month:  
 (b) Details of transfer of amount to the fund:  
 (c) Date:  
 (d) Amount:  
 (e) Bank details of transfer:

Signature and seal of the concerned officer

## FORM XXII

[see rule 158 (3)]

## APPLICATION FOR GRANT OF COMPETENCY TO A PERSON

1. Name
2. Date of birth
3. Name of the organization (if not self-employed)
4. Designation
5. Educational qualifications (copies of testimonials to be attached)
6. Details of professional experience (in chronological order)
 

Name of the Organization	Period of Service	Designation	Area of Responsibility
7. Memberships, if any, of professional bodies
8. (i) Details of facilities (examination, testing etc.) at his disposal  
(ii) Arrangements for calibrating and maintaining the accuracy of these facilities)
9. Purpose for which competency certificate is sought (specify the Schedule/rule)
10. Whether the applicant has been declared as a competent person under any other state or statute(if so furnish details)
11. Any other relevant information
12. Declaration by the applicant

I, ----- hereby declare that the information furnished above is true.

I undertake

- (a) That in the event of any change in facilities at my disposal (either addition or deletion) or my leaving the aforesaid organization, I will promptly inform the Chief Inspector cum Facilitator.
- (b) to maintain the facilities in good working order, calibrated periodically as per manufacturer's instructions or as per National standards; and
- (c) to fulfill and abide by all conditions stipulated in the certificate of competency and instructions issued by Chief Inspector cum facilitator from time to time.

Place

Signature of the applicant

Date

## FORM XXIII

[see rule 158(3)]

## APPLICATION FOR GRANT OF COMPETENCY TO AN INSTITUTION

1. Name and full address of the organization.
2. Organization's status (specify whether Government, autonomous, co-operative, corporate or private)
3. Purpose for which competency certificate is sought (specify the Schedule / rule)
4. Whether the organization has been declared as a competent person under this or any other statute(if so furnish details)
5. Particulars of persons employed and possessing qualification and experience as set out in the Schedule annexed to rule

Sl. Name and No. designation	Qualification	Experience	Schedule(s) /rule(s)	Under which person's competency sought
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6. Details of facilities and arrangements made for their maintenance and calibration periodically.

7. any other relevant information

8. Declaration

9. ----- I -----  
----- certify that Thiru -----whose

details are furnished above, is in our employment and nominate on the behalf of organization for the purpose of being declared as competent person under the Code; I also undertake that I will-

- (a) Notify to the Chief Inspector-cum-Facilitator in case the competent person leaves our institution.
- (b) To maintain the facilities in good working order calibrating periodically as per manufacturer's instructions or as per National standards;
- (c) notify to Chief Inspector-cum-Facilitator any change in facilities (either addition or deletion)
- (d) to fulfill and abide by all conditions stipulated in the certificate of competency and instructions issued by Chief Inspector of Factories from time to time

I-----hereby declare that the information furnished above are correct to the best of my knowledge

Date

Signature

Place

Head of Institution

Mobile number Email

## FORM XXXIV

[see rule 158(4)]

## CERTIFICATE OF COMPETENCY ISSUED TO A PERSON OR AN INSTITUTION

I,-----in exercise the power conferred on me under Section 2(l) of The Occupational Safety, Health And Working Conditions Code 2020 and the rules made there under, hereby recognize \_\_\_\_\_ (Name of the Institution) or Thiru.-----  
 - (Name of the person) employed in ----- (Name of organisation) to be a Competent person for the purpose of carrying out tests, examinations, inspections and certifications for such buildings, ventilation system, conveyors, power presses, confined spaces, thermic fluid heaters, centrifugal machines, oven and driers, dust extraction system, blasting enclosures and such other processes of plant and equipment as the case may be used in a factory located in \_\_\_\_\_ under section [ ] of the Code and the rules made there under.

This certificate is valid from \_\_\_\_\_ to \_\_\_\_\_

This certificate is issued subject to the conditions stipulated there under-

1. Tests, examinations and inspections shall be carried out in accordance with the provisions of the Code and the rules made there under.
2. Tests, examinations and inspections shall be carried out under the direct supervision of the competent person or by a person so authorized by an institution recognised to be a competent person.
3. The certificate of competency issued in favour of a person shall stand cancelled if the person leaves the organization mentioned in his application. The institution recognised as a competent person shall keep the Chief Inspector-cum-Facilitator informed of the names, designations and qualifications of the person authorized by it to carry out tests, examinations and inspections.

(Strike out the words not applicable)

Station

Office seal:

Date

Signature of the  
 Chief Inspector-cum-Facilitator,

R. KIRLOSH KUMAR,  
*Secretary to Government.*